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(FILE 'HOME' ENTERED AT 14:54:42 ON 06 DEC 2004)

FILE 'HCAPLUS' ENTERED AT 14:54:47 ON 06 DEC 2004

L1 1 US20040063650/PN
E JP2002-282874/APPS
L2 1 JP2002-282874/APPS

L3 1 L1-2

FILE 'REGISTRY' ENTERED AT 14:55:23 ON 06 DEC 2004

FILE 'HCAPLUS' ENTERED AT 14:55:25 ON 06 DEC 2004

L4 TRA L3 1- RN : 5 TERMS

FILE 'REGISTRY' ENTERED AT 14:55:25 ON 06 DEC 2004

L5 5 SEA L4

FILE 'HCAPLUS' ENTERED AT 14:55:28 ON 06 DEC 2004

L6 1 US20040063650/PN
L7 1 JP2002-282874/AP, PRN

L8 1 L6-7

=> b hcap

FILE 'HCAPLUS' ENTERED AT 14:56:06 ON 06 DEC 2004

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FILE COVERS 1907 - 6 Dec 2004 VOL 141 ISS 24

FILE LAST UPDATED: 5 Dec 2004 (20041205/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all 13

L3 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:269858 HCAPLUS
DN 140:287102
ED Entered STN: 02 Apr 2004
TI Method for producing 3-methylthiopropional from acrolein and methyl mercaptan
IN Shiozaki, Tetsuya; Haga, Toru
PA Sumitomo Chemical Company, Limited, Japan
SO U.S. Pat. Appl. Publ., 4 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C07C323-22
NCL 514041000
CC 23-14 (Aliphatic Compounds)
Section cross-reference(s): 45

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20040063650	A1	20040401	US 2003-665006	20030922 <--
	JP 2002-282874	A2	20040415	JP 2002-282874	20020927 <--
	EP 1408029	A1	20040414	EP 2003-211914	20030924 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

PRAI JP 2002-282874 A 20020927 <--

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

Search done by Noble Jarrell

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US 2004063650   ICM   C07C323-22
                  NCL   514041000
JP 2004115461   FTERM  4H006/AA02; 4H006/AC63; 4H006/BA32; 4H006/BA50;
                  4H006/BA51; 4H006/TA04; 4H006/TB56; 4H039/CA80;
                  4H039/CF10
OS   CASREACT 140:287102
AB   3-Methylthiopropional is produced in high yield and selectivity by
      supplying acrolein and Me mercaptan together or sequentially with an
      acidic compound (e.g., acetic acid) and a basic compound (e.g., pyridine) into
      a reaction system to react the acrolein with the Me mercaptan, where the
      basic compound is used in an amount of about 0.3 mol or less per mol of the
      acidic compound
ST   methylthiopropional manuf acrolein reaction methyl mercaptan
IT   Thioethers
      RL: SPN (Synthetic preparation); PREP (Preparation)
          (3-methylthiopropional; method for producing 3-methylthiopropional from
          acrolein and Me mercaptan)
IT   Addition reaction
      (in a method for producing 3-methylthiopropional from acrolein and Me
      mercaptan)
IT   Acids, uses
      Bases, uses
      RL: CAT (Catalyst use); USES (Uses)
          (in a method for producing 3-methylthiopropional from acrolein and Me
          mercaptan)
IT   Etherification
      (thioetherification; in a method for producing 3-methylthiopropional
      from acrolein and Me mercaptan)
IT   74-93-1, Methyl mercaptan, reactions 107-02-8, Acrolein, reactions
      RL: RCT (Reactant); RACT (Reactant or reagent)
          (method for producing 3-methylthiopropional from acrolein and Me
          mercaptan)
IT   3268-49-3P, 3-Methylthiopropional
      RL: SPN (Synthetic preparation); PREP (Preparation)
          (method for producing 3-methylthiopropional from acrolein and Me
          mercaptan)
IT   64-19-7, Acetic acid, uses 110-86-1, Pyridine, uses
      RL: CAT (Catalyst use); USES (Uses)
          (method for producing 3-methylthiopropional from acrolein and Me
          mercaptan using)

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=> b reg

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STRUCTURE FILE UPDATES: 5 DEC 2004 HIGHEST RN 792236-36-3
 DICTIONARY FILE UPDATES: 5 DEC 2004 HIGHEST RN 792236-36-3

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
 conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
 information enter HELP PROP at an arrow prompt in the file or refer
 to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d lde 15 tot

L5 ANSWER 1 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 3268-49-3 REGISTRY
 CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Propionaldehyde, 3-(methylthio)- (6CI, 7CI, 8CI)
 OTHER NAMES:
 CN .beta.-(Methylmercapto)propionaldehyde

Search done by Noble Jarrell

CN .beta.-(Methylthio)propionaldehyde
 CN .beta.-(Methylthio)propionic aldehyde
 CN 3-(Methylmercapto)propionaldehyde
 CN 3-(Methylthio)propanal
 CN 3-(Methylthio)propionaldehyde
 CN Methional
 CN NSC 15874
 FS 3D CONCORD
 MF C4 H8 O S
 CI COM
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
 BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
 CHEMINFORMRX, CHEMLIST, CHEMSAFE, CSCHEM, DIPPR*, EMBASE, HODOC*,
 IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NAPRALERT, NIOSHTIC, RTECS*,
 SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)
 DT.CA Caplus document type: Conference; Journal; Patent; Report
 RL.P Roles from patents: BIOL (Biological study); FORM (Formation,
 nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP
 (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses);
 NORL (No role in record)
 RLD.P Roles for non-specific derivatives from patents: BIOL (Biological
 study); PREP (Preparation); USES (Uses)
 RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological
 study); CMBI (Combinatorial study); FORM (Formation, nonpreparative);
 OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties);
 RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

MeS-CH₂-CH₂-CHO

****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

1037 REFERENCES IN FILE CA (1907 TO DATE)
 4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 1040 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 29 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 2 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 110-86-1 REGISTRY
 CN Pyridine (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN Azabenzene
 CN Azine
 CN CP 32
 CN NSC 141574
 CN NSC 406123
 FS 3D CONCORD
 DR 733733-47-6, 6999-00-4, 163392-20-9, 62301-32-0, 152758-95-7, 85404-19-9,
 85404-20-2, 82005-06-9, 45410-39-7
 MF C5 H5 N
 CI COM, RPS
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
 BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN,
 CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU,
 DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2,
 ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB,
 MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, PS,
 RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2,
 USPATFULL, VTB
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
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 DT.CA Caplus document type: Book; Conference; Dissertation; Journal; Patent;
 Preprint; Report
 RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);
 FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU
 (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT
 (Reactant or reagent); USES (Uses); NORL (No role in record)
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 (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process);

PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

44587 REFERENCES IN FILE CA (1907 TO DATE)
 6335 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 44642 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 8 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 3 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 107-02-8 REGISTRY
 CN 2-Propenal (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Acrolein (8CI)
 OTHER NAMES:
 CN 2-Propen-1-one
 CN Acrylaldehyde
 CN Acrylic aldehyde
 CN Allyl aldehyde
 CN Aqualin
 CN Magnacide B
 CN Magnacide H
 CN NSC 8819
 CN Prop-2-en-1-al
 CN Propenal
 FS 3D CONCORD
 DR 25314-61-8
 MF C3 H4 O
 CI COM
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSChem, CSNB, DDFU, DETHERM*, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)

DT.CA Caplus document type: Book; Conference; Dissertation; Journal; Patent; Report

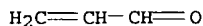
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PRP (Properties); RACT (Reactant or reagent); USES (Uses)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

12004 REFERENCES IN FILE CA (1907 TO DATE)
273 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
12014 REFERENCES IN FILE CAPLUS (1907 TO DATE)
5 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 4 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN

RN 74-93-1 REGISTRY

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN Mercaptomethane

CN Methyl mercaptan

FS 3D CONCORD

DR 63933-47-1

MF C H4 S

CI COM

LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS,
BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS,
CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHM, CSNB, DDFU, DETHERM*,
DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2,
GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*,
MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, PS, RTECS*, SPECINFO,
TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**

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DT.CA CAplus document type: Conference; Dissertation; Journal; Patent;
Preprint; Report

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);
FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU
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(Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT
(Reactant or reagent)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

6878 REFERENCES IN FILE CA (1907 TO DATE)
76 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
6887 REFERENCES IN FILE CAPLUS (1907 TO DATE)
6 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 5 OF 5 REGISTRY COPYRIGHT 2004 ACS on STN

RN 64-19-7 REGISTRY

CN Acetic acid (7CI, 8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN acetic acid

CN Aci-Jel

CN E 260

CN Ethanoic acid

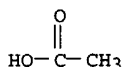
CN Ethanoic acid monomer

CN Ethylic acid

CN Glacial acetic acid

CN Methanecarboxylic acid

CN NSC 111201
 CN NSC 112209
 CN NSC 115870
 CN NSC 127175
 CN NSC 132953
 CN NSC 406306
 CN Vinegar acid
 FS 3D CONCORD
 DR 77671-22-8
 MF C2 H4 O2
 CI COM
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS,
 BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB,
 CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHM, CSNB,
 DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2,
 ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB,
 IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA,
 PROMT, PS, RTECS*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2,
 USPATFULL, VETU, VTB
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 Other Sources: DSL**, EINECS**, TSCA**
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 PRP (Properties); RACT (Reactant or reagent); USES (Uses)
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 MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC
 (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses);
 NORL (No role in record)
 RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical
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 (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process);
 PRP (Properties); RACT (Reactant or reagent); USES (Uses)



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

88553 REFERENCES IN FILE CA (1907 TO DATE)
 4572 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 88657 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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FILE LAST UPDATED: 3 DEC 2004 <20041203/UP>
 MOST RECENT DERWENT UPDATE: 200477 <200477/DW>
 DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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 GUIDES, PLEASE VISIT:
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DOCUMENTATION NOW AVAILABLE IN DERWENT WORLD PATENTS INDEX
FIRST VIEW - FILE WPIFV.
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HIT STRUCTURES WITHIN THE BIBLIOGRAPHIC DOCUMENT <<<

>>> SMILES and ISOSMILES strings are no longer available as
Derwent Chemistry Resource display fields <<<

=> d all der den 14

L8 ANSWER 1 OF 1 WPIX COPYRIGHT 2004 THE THOMSON CORP on STN
AN 2004-294416 [27] WPIX
DNC C2004-112615
TI Production of 3-methylthiopropional used as intermediate for producing
methionine used as feed supplement or its hydroxy analogue, comprises
supplying acrolein and methyl mercaptan with acidic and basic compounds.
DC B05 C03 D13 E17
IN HAGA, T; SHIOZAKI, T
PA (SUMO) SUMITOMO CHEM CO LTD
CYC 34
PI US 2004063650 A1 20040401 (200427)* 4 C07C323-22 <--
EP 1408029 A1 20040414 (200427) EN C07C319-18
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MC MK NL PT RO SE SI SK TR
JP 2004115461 A 20040415 (200427) 6 C07C319-18
CN 1496979 A 20040519 (200455) C07C323-22
ADT US 2004063650 A1 US 2003-665006 20030922; EP 1408029 A1 EP 2003-21191
20030924; JP 2004115461 A JP 2002-282874 20020927; CN 1496979 A
CN 2003-125534 20030925
PRAI JP 2002-282874 20020927
IC ICM C07C319-18; C07C323-22
AB US2004063650 A UPAB: 20040426
NOVELTY - Production of 3-methylthiopropional comprises supplying acrolein
and methyl mercaptan with acidic and basic compounds into a reaction
system to react acrolein with methyl mercaptan. The basic compound is used
in an amount of up to 0.3 mol/mol of the acidic compound.
USE - The method is used for preparing 3-methylthiopropional useful as
an intermediate for producing methionine as a feed supplement or its
hydroxy analogue.
ADVANTAGE - High quality 3-methylthiopropional is produced while
suppressing the production of by-products having high boiling points.
Dwg.0/0
FS CPI
FA AB; DCN
MC CPI: B10-D01; C10-D01; D03-G; D03-H01; E10-D01C; E11-H
M2 *01* DCN: RA3BU8-K; RA3BU8-P
M2 *02* DCN: R00808-K; R00808-S
M2 *03* DCN: R00332-K; R00332-S
M2 *04* DCN: R00247-K; R00247-V; R00247-U; R07345-K; R07345-V; R07345-U
M2 *05* DCN: R00916-K; R00916-V; R00916-U
M3 *01* DCN: RA3BU8-K; RA3BU8-P
M3 *02* DCN: R00808-K; R00808-S
M3 *03* DCN: R00332-K; R00332-S
M3 *04* DCN: R00247-K; R00247-V; R00247-U; R07345-K; R07345-V; R07345-U
M3 *05* DCN: R00916-K; R00916-V; R00916-U
DRN 0247-S; 0247-U; 0332-S; 0332-U; 0808-S; 0808-U; 0916-S; 0916-U

=> b home
FILE 'HOME' ENTERED AT 14:56:39 ON 06 DEC 2004

=>

=> b reg

FILE "REGISTRY" ENTERED AT 15:34:32 ON 06 DEC 2004
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 provided by InfoChem.

STRUCTURE FILE UPDATES: 5 DEC 2004 HIGHEST RN 792236-36-3
 DICTIONARY FILE UPDATES: 5 DEC 2004 HIGHEST RN 792236-36-3

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
 conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
 information enter HELP PROP at an arrow prompt in the file or refer
 to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> d f66 l12

L12 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 3268-49-3 REGISTRY
 CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Propionaldehyde, 3-(methylthio)- (6CI, 7CI, 8CI)
 OTHER NAMES:
 CN .beta.-(Methylmercapto)propionaldehyde
 CN .beta.-(Methylthio)propionaldehyde
 CN .beta.-(Methylthio)propionic aldehyde
 CN 3-(Methylmercapto)propionaldehyde
 CN 3-(Methylthio)propanal
 CN 3-(Methylthio)propionaldehyde
 CN Methional
 CN NSC 15874
 FS 3D CONCORD
 MF C4 H8 O S
 CI COM
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
 BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS,
 CHEMINFORMRX, CHEMLIST, CHEMSAFE, CSChem, DIPPR*, EMBASE, HODOC*,
 IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NAPRALERT, NIOSHTIC, RTECS*,
 SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)
 DT.CA CAPLUS document type: Conference; Journal; Patent; Report
 RL.P Roles from patents: BIOL (Biological study); FORM (Formation,
 nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP
 (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses);
 NORL (No role in record)
 RLD.P Roles for non-specific derivatives from patents: BIOL (Biological
 study); PREP (Preparation); USES (Uses)
 RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological
 study); CMBI (Combinatorial study); FORM (Formation, nonpreparative);
 OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties);
 RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

MeS-CH₂-CH₂-CHO

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1037 REFERENCES IN FILE CA (1907 TO DATE)
 4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 1040 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 29 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

Search done by Noble Jarrell

=> d his

(FILE 'HOME' ENTERED AT 14:54:42 ON 06 DEC 2004)

FILE 'HCAPLUS' ENTERED AT 14:54:47 ON 06 DEC 2004

L1 1 US20040063650/PN
E JP2002-282874/APPS
L2 1 JP2002-282874/APPS
L3 1 L1-2

FILE 'REGISTRY' ENTERED AT 14:55:23 ON 06 DEC 2004

FILE 'HCAPLUS' ENTERED AT 14:55:25 ON 06 DEC 2004
L4 TRA L3 1- RN : 5 TERMS

FILE 'REGISTRY' ENTERED AT 14:55:25 ON 06 DEC 2004
L5 5 SEA L4

FILE 'WPIX' ENTERED AT 14:55:28 ON 06 DEC 2004

L6 1 US20040063650/PN
L7 1 JP2002-282874/AP,PRN
L8 1 L6-7

FILE 'REGISTRY' ENTERED AT 15:06:58 ON 06 DEC 2004

L9 121 C4H8OS NOT ((PMS OR MAN OR IDS)/CI OR UNSPECIFIED OR COMPD OR C
L10 14 L9 AND METHYLTHIO
L11 2 L10 AND PROPIONALDEHYDE
SEL RN 2
L12 1 E1 AND L11

FILE 'HCAPLUS' ENTERED AT 15:10:10 ON 06 DEC 2004

L13 1324 (METHYLMERCAPTO OR METHYLTHIO) (1A) (PROPIONALDEHYDE OR PROPION
L14 91 L13 (L) PREP+NT/RL
E ACROLEIN/CT
E E3+ALL
L15 12015 ACROLEIN/CT
L16 4967 L15 (L) RACT+NT/RL
E MERCAPTAN/CT
E E4+ALL
E E2
E E3+ALL
L17 149167 "THIOLS (ORGANIC)"+OLD,NT/CT
L18 41326 L17 (L) RACT+NT/RL
E SHIOZAKI T/AU
L19 6 E3-4
E SHIOZAKI TETSUYA/AU
L20 69 E3
E HAGA T/AU
L21 109 E3
E HAGA TORU/AU
L22 104 E3
L23 27489 (SUMITOMO (1A) CHEM?)/CS,PA
L24 60 L13-14 AND L15-16 AND L17-18
L25 1 L24 AND L19-22
L26 1 L24 AND L23
L27 1 L25-26
L28 59 L24 NOT L27
L29 QUE PY<=2002 OR PRY<=2002 OR AY<=2002 OR PD<20020927 OR AD<2002
L30 59 L28 AND L29
L31 29 L14 AND L16 AND L18
L32 1 L31 AND L19-23
L33 28 L31 NOT L32
L34 28 L33 AND L29
E ACIDS/CT
L35 870594 ACIDS/CW
L36 31090 BASES/CW
L37 4 L34 AND L35-36
L38 1 L27 OR L32

=> b hcap

FILE 'HCAPLUS' ENTERED AT 15:34:53 ON 06 DEC 2004

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FILE COVERS 1907 - 6 Dec 2004 VOL 141 ISS 24
FILE LAST UPDATED: 5 Dec 2004 (20041205/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

48 of all 138

L38 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:269858 HCAPLUS
DN 140:287102
ED Entered STN: 02 Apr 2004
TI Method for producing 3-methylthiopropional from acrolein and methyl mercaptan
IN ~~Shimadzu, Tokyo, Japan~~
PA ~~Shimadzu Chemical Company, Limited, Japan~~
SO U.S. Pat. Appl. Publ., 4 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM C07C323-22
NCL 514041000
CC 23-14 (Aliphatic Compounds)
Section cross-reference(s): 45
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004063650	A1	20040401	US 2003-665006	20030922
	JP 2004115461	A2	20040415	JP 2002-282874	20020927
	EP 1408029	A1	20040414	EP 2003-21191	20030924
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRAI	JP 2002-282874	A	20020927		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2004063650	ICM	C07C323-22
	NCL	514041000
JP 2004115461	FTERM	4H006/AA02; 4H006/AC63; 4H006/BA32; 4H006/BA50; 4H006/BA51; 4H006/TA04; 4H006/TB56; 4H039/CA80; 4H039/CF10

OS CASREACT 140:287102
AB 3-Methylthiopropional is produced in high yield and selectivity by supplying acrolein and Me mercaptan together or sequentially with an acidic compound (e.g., acetic acid) and a basic compound (e.g., pyridine) into a reaction system to react the acrolein with the Me mercaptan, where the basic compound is used in an amount of about 0.3 mol or less per mol of the acidic compound
ST methylthiopropional manuf acrolein reaction methyl mercaptan
IT Thioethers
RL: SPN (Synthetic preparation); PREP (Preparation)
(3-methylthiopropional; method for producing 3-methylthiopropional from acrolein and Me mercaptan)
IT Addition reaction
(in a method for producing 3-methylthiopropional from acrolein and Me mercaptan)
IT Acids, uses
Bases, uses
RL: CAT (Catalyst use); USES (Uses)
(in a method for producing 3-methylthiopropional from acrolein and Me mercaptan)
IT Etherification
(thioetherification; in a method for producing 3-methylthiopropional from acrolein and Me mercaptan)
IT 74-93-1, Methyl mercaptan, reactions 107-02-8, Acrolein,

reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(method for producing 3-methylthiopropional from acrolein and Me mercaptan)

IT 3268-49-3P, 3-Methylthiopropional

RL: SPN (Synthetic preparation); PREP (Preparation)

(method for producing 3-methylthiopropional from acrolein and Me mercaptan)

IT 64-19-7, Acetic acid, uses 110-86-1, Pyridine, uses

RL: CAT (Catalyst use); USES (Uses)

(method for producing 3-methylthiopropional from acrolein and Me mercaptan using)

L34 ANSWER 1 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:348011 HCAPLUS

DN 140:356948

ED Entered STN: 29 Apr 2004

TI Catalytic addition reaction for the production of 3-(methylthio)propional from mercaptomethane and acrolein

IN Rey, Patrick

PA Adisseo France S.A.S., Fr.

SO Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C07C319-18

ICS C07C323-22

CC 23-14 (Aliphatic Compounds)

Section cross-reference(s): 45, 67

FAN. CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1413573	A1	20040428	EP 2002-356211	20021024 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
WO 2004037774	A1	20040506	WO 2003-IB4557	20031014 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI EP 2002-356211	A	20021024 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1413573	ICM	C07C319-18
	ICS	C07C323-22
EP 1413573	ECLA	C07C319/18 <--

OS CASREACT 140:356948

AB A process for the production of 3-(methylthio)propional comprises reacting mercaptomethane and acrolein in the presence of a catalyst comprising an organic base such as an N-alkylmorpholine (e.g., 4-methylmorpholine).

ST methylthiopropional prepn catalytic addn reaction mercaptomethane acrolein

IT Cyanohydrins

RL: SPN (Synthetic preparation); PREP (Preparation)

(2-hydroxy-4-(methylthio)butanenitrile; preparation of)

IT Aldehydes, preparation

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(aliphatic, 3-(methylthio)propional; catalytic addition reaction for the production of 3-(methylthio)propional from mercaptomethane and acrolein)

IT Carboxylic acids, uses

RL: CAT (Catalyst use); USES (Uses)

(aliphatic, N-alkylmorpholines; addition reaction catalysts in the production of 3-(methylthio)propional from mercaptomethane and acrolein)

IT Amines, uses

RL: CAT (Catalyst use); USES (Uses)

(cyclic, N-alkylmorpholines; addition reaction catalysts in the production of 3-(methylthio)propanal from mercaptomethane and acrolein)

IT Addition reaction
(for the production of 3-(methylthio)propanal from mercaptomethane and acrolein)

IT Hydrocyanation
(of 3-(methylthio)propanal with HCN to give 2-hydroxy-4-(methylthio)butanenitrile)

IT 64-18-6, Formic acid, uses 64-19-7, Acetic acid, uses 79-09-4, Propanoic acid, uses 100-74-3, 4-Ethylmorpholine 107-92-6, Butyric acid, uses 109-02-4, 1-Methylmorpholine
RL: CAT (Catalyst use); USES (Uses)
(addition reaction catalysts in the production of 3-(methylthio)propanal from mercaptomethane and acrolein)

IT 74-93-1, Mercaptomethane, reactions 107-02-8, Acrolein, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalytic addition reaction for the production of 3-(methylthio)propanal from mercaptomethane and acrolein)

IT 3268-49-3P, 3-(Methylthio)propanal
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(catalytic addition reaction for the production of 3-(methylthio)propanal from mercaptomethane and acrolein)

IT 17773-41-0P, 2-Hydroxy-4-(methylthio)butyronitrile
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 74-90-8, Hydrogen cyanide, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with 3-(methylthio)propanal)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Biola, G; US 4225516 A 1980 HCAPLUS
(2) Daicel Chem; EP 0601195 A 1994 HCAPLUS
(3) Porter, H; US 5696282 A 1997 HCAPLUS
(4) Vinton, W; US 2427582 A 1947 HCAPLUS

IT 74-93-1, Mercaptomethane, reactions 107-02-8, Acrolein, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalytic addition reaction for the production of 3-(methylthio)propanal from mercaptomethane and acrolein)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 3268-49-3P, 3-(Methylthio)propanal
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(catalytic addition reaction for the production of 3-(methylthio)propanal from mercaptomethane and acrolein)

RN 3268-49-3 HCAPLUS

CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

L34 ANSWER 2 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:112320 HCAPLUS
DN 134:164826
ED Entered STN: 15 Feb 2001
TI Manufacture of acrolein and acrolein derivatives from Diels-Alder reaction or Michael addition
IN Etzkorn, William George; Galley, Richard A.; Snead, Thomas E.; Brockwell, Jonathan Lester; Young, Mark Anderson; Maher, John Michael; Warren,

Search done by Noble Jarrell

Barbara Knight
 PA Union Carbide Chemicals and Plastics Technology Corporation, USA
 SO U.S., 11 pp., Cont.-in-part of WO9736848.
 CODEN: USXXAM
 DT Patent
 LA English
 IC C07C027-10; C07C045-27; C07C045-32
 NCL 568469900
 CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
 Section cross-reference(s): 23

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6187963	B1	20010213	US 1998-169798	19981009 <--
	WO 9736848	A1	19971009	WO 1997-US5100	19970327 <--
	W:				
	GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	RW:				
	AU, BB, BG, BR, CA, CN, CZ, HU, IS, JP, KP, KR, LK, LR, LV, MK, MX, NO, NZ, PL, SG, SI, TR, TT, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	EP 891316	A1	19990120	EP 1997-917687	19970327 <--
	EP 891316	B1	20030521		
	R:				
	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI				
PRAI	EP 1997-917687	A	19970327	<--	
	WO 1997-US5100	A2	19970327	<--	
	US 1996-14507P	P	19960401	<--	
	US 1996-14510P	P	19960401	<--	
	US 1996-14678P	P	19960401	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6187963	IC	C07C027-10IC C07C045-27IC C07C045-32
	NCL	568469900

AB A process for producing an acrolein derivative comprises (i) passing a propylene feed stream comprising propylene, oxygen, and a recycle gas comprising propane, oxygen, and at least one of carbon monoxide and carbon dioxide to an acrolein reaction zone wherein the propylene feed stream is contacted with an acrolein reaction catalyst at conditions effective to promote the formation of acrolein to provide an acrolein effluent stream comprising acrolein, propane, acetaldehyde and water; (ii) passing the acrolein effluent stream to an acrolein separation zone wherein the acrolein effluent stream is partially condensed to provide a liquid acrolein product stream comprising acrolein, acetaldehyde, and water and a recycle gas stream comprising the recycle gas; (iii) passing the acrolein product stream and a co-reactant capable of undergoing a Diels-Alder reaction or Michael addition with acrolein to an acrolein derivative reaction zone and contacting the acrolein and co-reactant under conditions effective to convert the acrolein and the co-reactant into an acrolein derivative; and (iv) recycling at least a portion of the recycle gas stream to the acrolein reaction zone. The process is characterized in that the propylene feed stream comprises an amount of propane of from about 5 to 70 volume% and effective to provide a propylene-to-acrolein reaction efficiency of from about 75 to 90 mol%.

ST acrolein deriv manuf; Diels Alder reaction acrolein; Michael addn acrolein
 IT Diels-Alder reaction
 Dimerization
 Michael reaction
 (manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)
 IT 75-07-0P, Acetaldehyde, preparation
 RL: BYP (Byproduct); PREP (Preparation)
 (manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)
 IT 100-73-2P, 2-Formyl-3,4-dihydro-2H-pyran 108-99-6P, .beta.-Picoline
 110-86-1P, Pyridine, preparation 111-30-8P, Glutaraldehyde 504-63-2P,
 1,3-Propanediol 1321-16-0P, Tetrahydrobenzaldehyde 3268-49-3P,
 3-(Methylthio)propanal 31906-04-4P,
 4-(4-Hydroxy-4-methylpentyl)-3-cyclohexene-1-carboxaldehyde 75454-86-3P
 84315-07-1P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)
 IT 107-02-8P, Acrolein, preparation 2134-29-4P,
 3-Hydroxypropionaldehyde 4454-05-1P, 2-Methoxy-3,4-dihydro-2H-pyran

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

IT 56-81-5, 1,2,3-Propanetriol, reactions 57-55-6, Propylene glycol, reactions 64-17-5, Ethanol, reactions 64-19-7, Acetic acid, reactions 65-85-0, Benzoic acid, reactions 67-56-1, Methanol, reactions 67-63-0, Isopropanol, reactions 74-93-1, Methyl mercaptan, reactions 79-09-4, Propionic acid, reactions 106-99-0, Butadiene, reactions 107-18-6, Allyl alcohol, reactions 107-21-1, Ethylene glycol, reactions 107-25-5, Methyl vinyl ether 108-24-7, Acetic anhydride 115-07-1, Propylene, reactions 115-77-5, Pentaerythritol, reactions 123-35-3, Myrcene 543-39-5 7664-41-7, Ammonia, reactions 7732-18-5, Water, reactions 30700-92-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

- (1) Angevine; US 5395940 1995 HCAPLUS
- (2) Anon; EP 0117146 1984 HCAPLUS
- (3) Anon; WO 9736848 1997 HCAPLUS
- (4) Bunning; US 4999452 1991 HCAPLUS
- (5) Cunningham; US 2626282 1953 HCAPLUS
- (6) Dai; Journal of Organic Chemistry 1995, V60, P8128 HCAPLUS
- (7) Davis; US 5321180 1994 HCAPLUS
- (8) Etzkorn; US 5155262 1992 HCAPLUS
- (9) Etzkorn; US 5183936 1993 HCAPLUS
- (10) Etzkorn; US 5198578 1993 HCAPLUS
- (11) Etzkorn; US 5243082 1993 HCAPLUS
- (12) Golubko; Zh Prikl Khim (Leningrad) 1987, V60(3), P588 HCAPLUS
- (13) Haas; US 5364987 1994 HCAPLUS
- (14) Hoepp; US 5892129 1999 HCAPLUS
- (15) Hsu; US 5352837 1994 HCAPLUS
- (16) Hsu; US 5637766 1997 HCAPLUS
- (17) Menard; US 4378314 1983 HCAPLUS
- (18) Paparizos; US 4499308 1985 HCAPLUS
- (19) Paparizos; US 4536585 1985 HCAPLUS
- (20) Reichle; US 5354915 1994 HCAPLUS
- (21) Shaw; US 5696282 1997 HCAPLUS

IT 3268-49-3P, 3-(Methylthio)propanal

RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

RN 3268-49-3 HCAPLUS

CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

IT 107-02-8P, Acrolein, preparation

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 74-93-1, Methyl mercaptan, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of acrolein and acrolein derivs. from Diels-Alder reaction or Michael addition)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

AN 2000:909250 HCAPLUS
 DN 134:43711
 ED Entered STN: 28 Dec 2000
 TI Oxidative processes for the manufacture of acrolein from propylene and oxygen
 IN Etzkorn, William George; Brockwell, Jonathan Lester; Young, Mark Anderson; Maher, John Michael; Warren, Barbara Knight
 PA Union Carbide Chemicals and Plastics Technology Corporation, USA
 SO U.S., 10 pp., Cont.-in-part of Appl. No. PCT/US97/05100.
 CODEN: USXXAM
 DT Patent
 LA English
 IC C07C045-32
 NCL 568469900
 CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
 Section cross-reference(s): 23, 48

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6166263	A	20001226	US 1998-169335	19981009 <--
	WO 9736848	A1	19971009	WO 1997-US5100	19970327 <--
	W: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	RW: AU, BB, BG, BR, CA, CN, CZ, HU, IS, JP, KP, KR, LK, LR, LV, MK, MX, NO, NZ, PL, SG, SI, TR, TT, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
PRAI	WO 1997-US5100	A2	19970327	<--	
	US 1996-14507P	P	19960401	<--	
	US 1996-14510P	P	19960401	<--	
	US 1996-14678P	P	19960401	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
------------	-------	------------------------------------

US 6166263	IC	C07C045-32
	NCL	568469900

AB Acrolein is produced in high yield and selectivity in a process comprising: (i) passing a propylene feedstream comprising propylene, oxygen and a recycle gas comprising propane, oxygen and carbon monoxide and/or carbon dioxide to an acrolein reaction zone where the propylene feedstream is contacted with an acrolein reaction catalyst to provide an acrolein effluent stream comprising acrolein, propane, acetaldehyde and water; (ii) passing the acrolein effluent stream to an acrolein separation zone where the acrolein effluent stream is partially condensed to provide a liquid acrolein product stream comprising acrolein, acetaldehyde and water and a recycle gas stream comprising the recycle gas; and (iii) recycling a portion of the recycle gas stream to the acrolein reaction zone. The propylene feedstream comprises 5-70 volume% propane and is effective to provide a propylene-to-acrolein reaction efficiency of 75-90 mol%. The presence of propane in the propylene-to-acrolein reaction can enhance the efficiency of the processes.

ST acrolein manuf propylene oxidn

IT Oxidation

(gas-phase; manufacture of acrolein from propylene and oxygen via)

IT Addition reaction

(of acrolein)

IT 67-56-1, Methanol, reactions 107-18-6, Allyl alcohol, reactions

107-25-5, Vinyl methyl ether 115-77-5, Pentaerythritol, reactions

7732-18-5, Water, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(addition reaction of acrolein with)

IT 74-93-1, Methanethiol, reactions 106-99-0, Butadiene, reactions

543-39-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(addition reactions of acrolein with)

IT 75-07-0P, Acetaldehyde, preparation

RL: BYP (Byproduct); PREP (Preparation)

(oxidative processes for the manufacture of acrolein from propylene and oxygen)

IT 107-02-8P, Acrolein, preparation

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

(oxidative processes for the manufacture of acrolein from propylene and oxygen)

IT 74-98-6, Propane, uses

RL: MOA (Modifier or additive use); USES (Uses)

(oxidative processes for the manufacture of acrolein from propylene and oxygen)

IT 124-38-9, Carbon dioxide, uses 630-08-0, Carbon monoxide, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (oxidative processes for the manufacture of acrolein from propylene and oxygen)

IT 115-07-1, Propene, reactions 7782-44-7, Oxygen, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidative processes for the manufacture of acrolein from propylene and oxygen)

IT 2134-29-4P, 3-Hydroxypropionaldehyde
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction of)

IT 111-30-8P, Glutaraldehyde
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of)

IT 78-19-3P 100-73-2P, 2-Formyl-3,4-dihydro-2H-pyran 504-63-2P,
 1,3-Propanediol 1321-16-0P, Tetrahydrobenzaldehyde 2806-84-0P,
 3-(Methoxy)propionaldehyde 3268-49-3P 4454-05-1P,
 2-Methoxy-3,4-dihydro-2H-pyran 31906-04-4P, 4-(4-Hydroxy-4-methylpentyl)-
 3-cyclohexene-1-carboxaldehyde 84315-07-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; EP 0117146 1984 HCAPLUS
- (2) Anon; WO 9736848 1997 HCAPLUS
- (3) Bunning; US 4999452 1991 HCAPLUS
- (4) Cunningham; US 2626282 1953 HCAPLUS
- (5) Davis; US 5321180 1994 HCAPLUS
- (6) Etzkorn; US 5155262 1992 HCAPLUS
- (7) Etzkorn; US 5183936 1993 HCAPLUS
- (8) Etzkorn; US 5198578 1993 HCAPLUS
- (9) Etzkorn; US 5243082 1993 HCAPLUS
- (10) Hsu; US 5352837 1994 HCAPLUS
- (11) Hsu; US 5637766 1997 HCAPLUS
- (12) Reichle; US 5354915 1994 HCAPLUS
- (13) Shaw; US 5696282 1997 HCAPLUS

IT 74-93-1, Methanethiol, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reactions of acrolein with)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

IT 107-02-8P, Acrolein, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (oxidative processes for the manufacture of acrolein from propylene and oxygen)

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 3268-49-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 3268-49-3 HCAPLUS

CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

L34 ANSWER 4 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2000:535110 HCAPLUS
 DN 133:150414

ED Entered STN: 04 Aug 2000
 TI Synthesis of oligoketides
 IN Ashley, Gary; Chan-Kai, Isaac Chu-Wah; Burlingame, Mark Alma
 PA Kosan Biosciences, Inc., USA
 SO PCT Int. Appl., 87 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C07C327-00
 CC 26-6 (Biomolecules and Their Synthetic Analogs)
 Section cross-reference(s): 1, 7, 9, 10

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000044717	A2	20000803	WO 2000-US2397	20000127 <--
	WO 2000044717	A3	20010208		
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	CA 2361040	AA	20000803	CA 2000-2361040	20000127 <--
	EP 1144375	A2	20011017	EP 2000-911673	20000127 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
	JP 2002535387	T2	20021022	JP 2000-595973	20000127 <--
	US 6492562	B1	20021210	US 2000-492733	20000127 <--
	US 2003096374	A1	20030522	US 2002-214653	20020807 <--
	US 2003092140	A1	20030515	US 2002-215964	20020808 <--
PRAI	US 1999-117384P	P	19990127	<--	
	US 2000-492733	A3	20000127	<--	
	WO 2000-US2397	W	20000127	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000044717	ICM	C07C327-00
US 6492562	ECLA	C07C327/30 <--
US 2003096374	ECLA	C07C327/30 <--
US 2003092140	ECLA	C07C327/30 <--

OS CASREACT 133:150414

AB Diketide and triketide thioesters were prepared by The method comprises (a) treating benzoxazolinone derivative of diketide or triketide with salt of thiol anion form N-acyl cysteamine thioester of diketide or triketide; (b) treating 2-oxazolidinone derivative of diketide or triketide with lithium salt of thiol anion in the presence of sufficient Lewis acid (trimethylammonium) form N-acyl cysteamine thioester of diketide or triketide. The resulting thioesters may be used as intermediates in the synthesis of desired polyketides by treating a polyketide synthase (PKS) enzyme complex with diketide or polyketide thioester, and may contain functional groups which ultimately reside in side chains on the resulting polyketide and thus can be used further to manipulate the polyketide so as to form derivs. The polyketides produced may also be tailored by glycosylation, hydroxylation and the like by treating polyketide with tailoring enzymes. The method can be used to synthesize oligoketide thioester on a solid support which comprises (1) reacting an N-acyl-2-imidazolidinone coupled to solid support with an aldehyde or acyl moiety under conditions whereby aldehyde or acyl moiety couples to a position .alpha. to a carbonyl in the acyl group of the 2-imidazolidinone; (2) optionally repeating step (1); (3) cleaving the resulting oligoketide from solid support by reaction with lithium salt of thiol anion in the presence of Lewis acid providing oligoketide thioester. Or alternately by (1) reacting an N-acyl benzoxazolone coupled to solid support with an aldehyde under conditions whereby aldehyde couples to a position .alpha. to carbonyl in the acyl group of the benzoxazolone; (2) optionally repeating step (1); (3) cleaving the resulting oligoketide from the solid support by reaction with salt of thiol anion, providing oligoketide thioester. Thus, propionyl oxazolidinone mixed with anhydrous dichloromethane, flushed with nitrogen, cooled to -15.degree.C in methanol/ice bath; Dibutylboron triflate (in dichloromethane) and diisopropylethylamine were added slowly and resp. to the reaction mixture while keeping temperature below 3.degree.C; After that cooled the temperature to -65.degree.C using dry ice /isopropanol bath, acrolein was added over 5

min by syringe, stirring the reaction mixture for 30 min, after that 1 M aqueous phosphate solution (pH 7.0), methanol, and 2:1 methanol-30% hydrogen peroxide were added resp. as quickly as possible while keeping the temperature below 10.degree.C, the reaction stirred for one more hour, then removed the solvent by rotary evaporation until a slurry remained, further purification giving the desired product (4S)-N-[(2S,3R)-2-methyl-3-hydroxy-4-pentenoyl]-4-benzyl-2-oxazolidinone. 15-Fluoro-6-deoxyerythronolide B was prep'd by feeding (2S,3R)-5-fluoro-3-hydroxy-2-methylpentanoate N-acetyl-cysteamine thioester to *S. coelicolor* CH999/pJRJ2.

ST diketide triketide polyketide oligoketide synthesis; erythronolide B
derive prepn

IT Saccharopolyspora erythraea
Solid phase synthesis
Streptomyces coelicolor
(synthesis of oligoketides)

IT Polyketides
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of oligoketides)

IT 194714-70-0P 215738-19-5P 215738-21-9P 215738-27-5P 215738-28-6P
215738-44-6P 215738-46-8P 215738-48-0P 215738-50-4P 287399-08-0P
287399-09-1P 287399-10-4P 287399-11-5P 287399-12-6P 287399-13-7P
287399-14-8P
RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP
(Preparation)
(synthesis of oligoketides)

IT 16962-53-1, Trimethylammonium 62086-04-8, Tin(II)triflate
RL: CAT (Catalyst use); USES (Uses)
(synthesis of oligoketides)

IT 59-49-4, 2(3H)-Benzoxazolone 85-41-6, Phthalimide 95-25-0,
Chlorzoxazone 100-46-9, Benzylamine, reactions 100-52-7, Benzaldehyde,
reactions 104-53-0, 3-Phenylpropanal 107-02-8, Acrolein,
reactions 108-94-1, Cyclohexanone, reactions 123-72-8, Butyraldehyde
123-73-9, trans-Crotonaldehyde 141-75-3, Butyryl chloride
156-57-0, Cysteamine hydrochloride 352-91-0,
1-Bromo-3-fluoropropane 406-87-1, 4,4,4-Trifluorobutyraldehyde
407-83-0 462-43-1, 3-Fluoropropanol 462-74-8 500-22-1,
Pyridine-3-carboxaldehyde 625-35-4, trans-Crotonyl chloride 630-19-3,
Trimethylacetaldehyde 1450-85-7, 2-Mercaptopyrimidine 1489-69-6,
Cyclopropanecarboxaldehyde 2100-17-6, 4-Penten-1-al 2975-46-4,
3-Trimethylsilylpropargyl aldehyde 7550-45-0, Titanium tetrachloride,
reactions 19434-65-2, 3-Chloropropanal 58503-60-9, 3-Azidopropanal
60656-87-3, Benzyloxyacetaldehyde 65032-54-4, 3-Bromopropanal
79956-01-7, Polyketide synthase 101711-78-8 101712-01-0 111964-99-9
155957-56-5 183064-83-7 287398-55-4 287398-56-5 287398-57-6
287398-58-7 287398-59-8 287398-60-1 287398-64-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of oligoketides)

IT 123-38-6P, Propionaldehyde, preparation 1190-73-4P, N-Acetylcysteamine
1420-88-8P, N,S-Diacetylcysteamine 2436-29-5P 3268-49-3P, 3-(
Methylthio)propionaldehyde 33388-19-1P 77063-66-2P,
3-Fluoropropanal 89436-27-1P 89436-29-3P 101711-79-9P 115444-28-5P
124439-37-8P 139426-88-3P 197640-48-5P 209671-25-0P 220081-70-9P
220081-71-0P 287398-61-2P 287398-62-3P 287398-63-4P 287398-65-6P
287398-66-7P 287398-68-9P 287398-69-0P 287398-70-3P 287398-71-4P
287398-72-5P 287398-73-6P 287398-74-7P 287398-75-8P 287398-76-9P
287398-77-0P 287398-78-1P 287398-79-2P 287398-81-6P 287398-82-7P
287398-83-8P 287398-84-9P 287398-85-0P 287398-86-1P 287398-87-2P
287398-88-3P 287398-89-4P 287398-90-7P 287398-91-8P 287398-92-9P
287398-93-0P 287398-94-1P 287398-95-2P 287398-96-3P 287398-97-4P
287398-98-5P 287398-99-6P 287399-00-2P 287399-01-3P 287399-02-4P
287399-03-5P 287399-04-6P 287399-05-7P 287399-06-8P 287399-07-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(synthesis of oligoketides)

IT 287399-15-9P 287399-16-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of oligoketides)

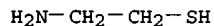
IT 107-02-8, Acrolein, reactions 156-57-0, Cysteamine
hydrochloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of oligoketides)

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)

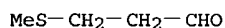


RN 156-57-0 HCAPLUS
CN Ethanethiol, 2-amino-, hydrochloride (8CI, 9CI) (CA INDEX NAME)



● HCl

IT 3268-49-3P, 3-(Methylthio)propionaldehyde
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(synthesis of oligoketides)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 5 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:289080 HCAPLUS
DN 132:309995
ED Entered STN: 04 May 2000
TI Processes for the manufacture of 3-(methylthio)propanal
IN Brockwell, Jonathan L.; Young, Mark A.; Etzkorn, William G.; Warren,
Barbara K.; Maher, John M.
PA Union Carbide Chemicals & Plastics Technology Corporation, USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C07C319-02
NCL 568041000
CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 23, 48

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6057481	A	20000502	US 1998-155750	19981001 <--
	WO 9736848	A1	19971009	WO 1997-US5100	19970327 <--
	W:	GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	RW:	AU, BB, BG, BR, CA, CN, CZ, HU, IS, JP, KP, KR, LK, LR, LV, MK, MX, NO, NZ, PL, SG, SI, TR, TT, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	AU 9725947	A1	19971022	AU 1997-25947	19970327 <--
	JP 2002503206	T2	20020129	JP 1997-535453	19970327 <--
	JP 3490459	B2	20040126		
	AT 240924	E	20030615	AT 1997-917687	19970327 <--
PRAI	US 1996-14507P	P	19960401	<--	
	US 1996-14510P	P	19960401	<--	
	US 1996-14678P	P	19960401	<--	
	WO 1997-US5100	W	19970327	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6057481	ICM	C07C319-02
	NCL	568041000

AB A process for the conversion of propylene to 3-(methylthio)propanal (I) by converting propylene to acrolein and converting the acrolein with Me mercaptan to I is described. The processes utilize oxygen and recycle propane to the acrolein reactor. The process feeds can comprise, propane, propylene or their mixts. The presence of propane in the propylene-to-acrolein reaction can enhance the efficiency of the processes.

ST methylthiopropional manuf; propene conversion manuf methylthiopropional
IT Addition reaction catalysts

Search done by Noble Jarrell

(for the reaction of Me mercaptan with acrolein in the manufacture of 3-(methylthio)propanal)

IT Oxidation
(gas-phase; of propene to acrolein)

IT Addition reaction
(of Me mercaptan and acrolein in the manufacture of 3-(methylthio)propanal)

IT Dehydrogenation
(of propane to propene)

IT 75-07-0P, Acetaldehyde, preparation
RL: BYP (Byproduct); PREP (Preparation)
(processes for the manufacture of 3-(methylthio)propanal)

IT 124-38-9P, Carbon dioxide, preparation 630-08-0P, Carbon monoxide, preparation
RL: BYP (Byproduct); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)
(processes for the manufacture of 3-(methylthio)propanal)

IT 3268-49-3P, 3-(Methylthio)propanal
RL: IMF (Industrial manufacture); PREP (Preparation)
(processes for the manufacture of 3-(methylthio)propanal)

IT 107-02-8P, Acrolein, preparation 115-07-1P, Propene, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(processes for the manufacture of 3-(methylthio)propanal)

IT 74-93-1, Methyl mercaptan, reactions 74-98-6, Propane, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(processes for the manufacture of 3-(methylthio)propanal)

IT 1305-78-8, Calcium oxide, uses
RL: CAT (Catalyst use); USES (Uses)
(processes for the manufacture of 3-(methylthio)propanal using)

IT 7782-44-7, Oxygen, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(processes for the manufacture of 3-(methylthio)propanal using)

IT 1304-76-3, Bismuth oxide, uses 1332-37-2, Iron oxide, uses 11098-99-0, Molybdenum oxide 265114-52-1, ACF 2
RL: CAT (Catalyst use); USES (Uses)
(processes for the manufacture of 3-(methylthio)propanal using a catalyst containing)

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; EP 0117146 1984 HCAPLUS
- (2) Anon; EP 0257565 1988 HCAPLUS
- (3) Anon; J A Chem Soc 1948, V70, P1450
- (4) Bernard; US 2676190 1954 HCAPLUS
- (5) Biola; US 4225516 1980 HCAPLUS
- (6) Blackburn; US 5663409 1997 HCAPLUS
- (7) Bunning; US 4999452 1991 HCAPLUS
- (8) Cunningham; US 2626282 1953 HCAPLUS
- (9) Davis; US 5321180 1994 HCAPLUS
- (10) Etzkorn; US 5155262 1992 HCAPLUS
- (11) Etzkorn; US 5183936 1993 HCAPLUS
- (12) Etzkorn; US 5198578 1993 HCAPLUS
- (13) Etzkorn; US 5243082 1993 HCAPLUS
- (14) Hefner; US 5705684 1998 HCAPLUS
- (15) Hsu; US 5352837 1994 HCAPLUS
- (16) Hsu; US 5637766 1997 HCAPLUS
- (17) Hsu; US 5744647 1998 HCAPLUS
- (18) Koberstein; US 4048232 1977 HCAPLUS
- (19) Komorn; US 4319047 1982 HCAPLUS
- (20) Reichle; US 5354915 1994 HCAPLUS
- (21) Shaw; US 5696282 1997 HCAPLUS
- (22) Shima; US 3529940 1970
- (23) Yoshitsugu; US 3438868 1969 HCAPLUS

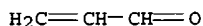
IT 3268-49-3P, 3-(Methylthio)propanal
RL: IMF (Industrial manufacture); PREP (Preparation)
(processes for the manufacture of 3-(methylthio)propanal)

RN 3268-49-3 HCAPLUS

CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

IT 107-02-8P, Acrolein, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant);
 PREP (Preparation); RACT (Reactant or reagent)
 (processes for the manufacture of 3-(methylthio)propanal
)
 RN 107-02-8 HCAPLUS
 CN 2-Propenal (9CI) (CA INDEX NAME)



IT 74-93-1, Methyl mercaptan, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (processes for the manufacture of 3-(methylthio)propanal)
 RN 74-93-1 HCAPLUS
 CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



L34 ANSWER 6 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1999:450926 HCAPLUS
 DN 131:89346
 ED Entered STN: 23 Jul 1999
 TI Continuous process for the preparation of 3-(methylthio)propanal from
 acrolein and methyl mercaptan
 IN Hsu, Yung C.; Ruest, Dennis A.
 PA Novus International, Inc., USA
 SO U.S., 26 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C07C319-00
 NCL 568041000
 CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
 Section cross-reference(s): 23, 48

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5925794	A	19990720	US 1996-668572	19960620 <--
	US 5352837	A	19941004	US 1993-73763	19930608 <--
	US 5637766	A	19970610	US 1995-557699	19951113 <--
	CN 1188470	A	19980722	CN 1996-194943	19960621 <--
	CN 1120834	B	20030910		
	US 6031138	A	20000229	US 1998-102025	19980622 <--
	US 6320076	B1	20011120	US 1999-470407	19991222 <--
PRAI	US 1993-73763	A2	19930608	<--	
	US 1994-273216	B1	19940711	<--	
	US 1995-421P	P	19950622	<--	
	US 1995-557699	A2	19951113	<--	
	US 1996-667099	B1	19960620	<--	
	US 1996-668572	B1	19960620	<--	
	US 1998-102025	A3	19980622	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5925794	ICM	C07C319-00
	NCL	568041000
US 6031138	ECLA	C07C319/18
US 6320076	ECLA	C07C045/35+47/22; C07C045/78A; C07C045/81; C07C319/18

AB 3-(Methylthio)propanal (I) is prepared in a continuous process in which a liquid reaction medium (containing I, Me mercaptan, and an addition reaction catalyst) is contacted with a gaseous acrolein feed stream (containing acrolein vapor and noncondensable gas) in a gas-liquid contact zone. Acrolein is transferred from the acrolein feed stream to the reaction medium and reacted with Me mercaptan in that medium to produce a liquid reaction product containing I. The noncondensable gas is separated from the liquid reaction product, the reaction product is divided into a product fraction and a circulating fraction, and the circulating fraction is recycled to the gas-liquid contact zone. Process flow diagrams are presented.

ST methylthiopropenal continuous manuf; acrolein addn reaction methyl

mercaptan prepn methylthiopropenal
 IT Addition reaction
 (continuous process for the preparation of 3-(methylthio)propanal from
 acrolein and Me mercaptan via)
 IT Oxidation
 (of propylene to acrolein)
 IT Reactors
 (plug-flow; continuous process for the preparation of 3-(methylthio)propanal
 from acrolein and Me mercaptan using)
 IT 583-91-5P, 2-Hydroxy-4-(methylthio)butyric acid
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (continuous process for the preparation of 3-(methylthio)
 propanal from acrolein and Me mercaptan)
 IT 107-02-8P, 2-Propenal, preparation 3268-49-3P, 3-(
 Methylthio)propanal 59121-24-3P, 4-
 (Methylthio)butyronitrile
 RL: IMF (Industrial manufacture); RCT (Reactant);
 PREP (Preparation); RACT (Reactant or reagent)
 (continuous process for the preparation of 3-(methylthio)
 propanal from acrolein and Me mercaptan)
 IT 74-90-8, Hydrogen cyanide, reactions 74-93-1, Methyl mercaptan,
 reactions 115-07-1, 1-Propene, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (continuous process for the preparation of 3-(methylthio)propanal from
 acrolein and Me mercaptan)

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD

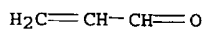
RE

- (1) Anon; CA 797873 1968
- (2) Anon; GB 1150252 1969
- (3) Anon; GB 1162054 1969
- (4) Anon; GB 1166961 1969
- (5) Anon; GB 1173174 1969
- (6) Anon; CA 820968 1969
- (7) Anon; GB 1177470 1970 HCAPLUS
- (8) Anon; FR 2314917 1970 HCAPLUS
- (9) Anon; NL 6809647 1970 HCAPLUS
- (10) Anon; JP 4856144 1973
- (11) Anon; RO 85095 1984 HCAPLUS
- (12) Anon; WO 96/01810 1996 HCAPLUS
- (13) Anon; PCT/US93/08552 International Search Report completed Nov 17, 1993
- (14) Anon; PCT/US95/08532 International Search Report completed Sep 19, 1995
- (15) Bernard; US 2676190 1954 HCAPLUS
- (16) Biola; US 4225516 1980 HCAPLUS
- (17) Cunningham; US 2626282 1953 HCAPLUS
- (18) Etzkorn; US 5155262 1992 HCAPLUS
- (19) Etzkorn; US 5183936 1993 HCAPLUS
- (20) Etzkorn; US 5198578 1993 HCAPLUS
- (21) Gresham; US 2485236 1949 HCAPLUS
- (22) Gresham; US 2542768 1951 HCAPLUS
- (23) Gresham; US 2564105 1951 HCAPLUS
- (24) Hickinbottom, W; Reactions of Organic Compounds 1957, P381
- (25) Hsu; US 5352837 1994 HCAPLUS
- (26) Hsu; US 5637766 1997 HCAPLUS
- (27) Hunt; US 2776996 1957 HCAPLUS
- (28) Koberstein; US 4048232 1977 HCAPLUS
- (29) Komorn; US 4319047 1982 HCAPLUS
- (30) Livak; US 2557913 1951 HCAPLUS
- (31) Mannsfeld; US 3878057 1975 HCAPLUS
- (32) Meyer; US 3574766 1971
- (33) Ouchi; US 3833651 1974 HCAPLUS
- (34) Pierson; US 2523633 1950 HCAPLUS
- (35) Pierson; US 2584496 1952 HCAPLUS
- (36) Pierson; Synthesis of DL-Methionine 1948, V70, P1450 HCAPLUS
- (37) Sandler; US 5015776 1991 HCAPLUS
- (38) Sawaki; US 3438868 1969 HCAPLUS
- (39) Shima; US 3529940 1970
- (40) Vander Weele; US 2521677 1950 HCAPLUS

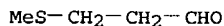
IT 107-02-8P, 2-Propenal, preparation 3268-49-3P, 3-(
 Methylthio)propanal
 RL: IMF (Industrial manufacture); RCT (Reactant);
 PREP (Preparation); RACT (Reactant or reagent)
 (continuous process for the preparation of 3-(methylthio)
 propanal from acrolein and Me mercaptan)

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)



RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



IT 74-93-1, Methyl mercaptan, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(continuous process for the preparation of 3-(methylthio)propanal from
acrolein and Me mercaptan)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



LP4 ANSWER 7 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:31172 HCAPLUS
DN 128:114715
ED Entered STN: 19 Jan 1998
TI Processes for the preparation of 3-(methylthio)propanal and
2-hydroxy-4-(methylthio)butanenitrile
IN Blackburn, Thomas F.; Pellegrin, Paul F.
PA Novus International, Inc., USA
SO U.S., 9 pp., Cont.-in-part of U.S. 5,663,409.
CODEN: USXXAM
DT Patent
LA English
IC ICM C07C323-22
ICS C07C253-00; C07C253-30; C07C319-20
NCL 558351000
CC 23-9 (Aliphatic Compounds)
Section cross-reference(s): 45
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5705675	A	19980106	US 1995-581249	19951229 <--
	US 5663409	A	19970902	US 1995-476356	19950607 <--
	ZA 9604335	A	19960820	ZA 1996-4335	19960528 <--
	WO 9640631	A1	19961219	WO 1996-US9060	19960604 <--
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
	AU 9659873	A1	19961230	AU 1996-59873	19960604 <--
	AU 714151	B2	19991223		
	EP 830341	A1	19980325	EP 1996-917222	19960604 <--
	EP 830341	B1	20010905		
	R: BE, DE, DK, ES, FR, GB, IT, LU, NL, MC, PT, IE				
	CN 1189818	A	19980805	CN 1996-195190	19960604 <--
	CN 1092184	B	20021009		
	JP 11511119	T2	19990928	JP 1997-501471	19960604 <--
	RU 2173681	C2	20010920	RU 1998-100220	19960604 <--
	ES 2160819	T3	20011116	ES 1996-917222	19960604 <--
	PT 830341	T	20011228	PT 1996-917222	19960604 <--
PRAI	US 1995-476356	A2	19950607	<--	
	US 1995-581249	A	19951229	<--	
	WO 1996-US9060	W	19960604	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5705675	ICM	C07C323-22
	ICS	C07C253-00; C07C253-30; C07C319-20
	NCL	558351000
WO 9640631	ECLA	C07C319/18; C07C319/20 <--
OS	CASREACT	128:114715; MARPAT 128:114715
AB	A catalytic processes for the preparation of 3-(methylthio)propanal and	

2-hydroxy-4-(methylthio)butanenitrile using novel addition catalysts is described. The novel addition catalysts include: triisopropanolamine, nicotinamide, imidazole, benzimidazole, 2-fluoropyridine, poly-4-vinylpyridine, 4-dimethylaminopyridine, picoline, pyrazine, trialkylamines, and tertiary amines. E.g., reaction of MeSH and acrolein in presence of poly-4-vinylpyridine gave 89.0% 3-(methylthio)propanal. The aldehyde product, containing the poly-4-vinylpyridine catalyst, was converted to the nitrile in the same reactor by treatment with HCN. The yield of nitrile was 72.9%.

- ST methylthiopropional prepn cyanidation; propanal methylthio prepn cyanidation; hydroxymethylthiobutanenitrile prepn; butanenitrile hydroxymethylthio prepn; addn reaction catalyst
- IT Addition reaction catalysts
(for preparation of (methylthio)propanal and hydroxy(methylthio)butanenitrile)
- IT 51-17-2, Benzimidazole 56-12-2, 4-Aminobutyric acid, uses 98-92-0, Nicotinamide 102-69-2, Tripropylamine 102-82-9, Tributylamine 102-87-4, Tridodecylamine 104-15-4, p-Toluenesulfonic acid, uses 107-45-9, tert-Octylamine 108-89-4, 4-Picoline 110-86-1, Pyridine, uses 122-20-3, Triisopropanolamine 139-33-3, Disodium EDTA 141-53-7, Sodium formate 150-59-4 288-32-4, Imidazole, uses 290-37-9, Pyrazine 372-47-4, 3-Fluoropyridine 372-48-5, 2-Fluoropyridine 552-82-9, N-Methyldiphenylamine 557-34-6, Zinc acetate 603-34-9, Triphenylamine 620-40-6, Tribenzylamine 621-77-2, Tripentylamine 1116-76-3, Trioctylamine 1122-58-3, 4-Dimethylaminopyridine 3486-35-9, Zinc carbonate 5137-55-3, Trioctylmethylammonium chloride 7647-10-1, Palladium chloride 12680-49-8, Sodium molybdate 13977-33-8, N-Methyldiphenethylamine 25232-41-1, Poly-4-vinylpyridine 33100-27-5, 15-Crown-5 198821-93-1
RL: CAT (Catalyst use); USES (Uses)
(preparation of (methylthio)propanal and hydroxy(methylthio)butanenitrile)
- IT 3268-49-3P, 3-(Methylthio)propanal
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of (methylthio)propanal and hydroxy(methylthio)butanenitrile)
- IT 17773-41-0P, 2-Hydroxy-4-(methylthio)butanenitrile
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of (methylthio)propanal and hydroxy(methylthio)butanenitrile)
- IT 74-93-1, Methyl mercaptan, reactions 107-02-8, Acrolein, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (methylthio)propanal and hydroxy(methylthio)butanenitrile)

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; FR 976673 1951 HCAPLUS
- (2) Anon; GB 867966 1961 HCAPLUS
- (3) Anon; GB 986198 1965
- (4) Anon; CA 797873 1968
- (5) Anon; GB 1150252 1969
- (6) Anon; GB 1162054 1969
- (7) Anon; GB 1166961 1969
- (8) Anon; GB 1173174 1969
- (9) Anon; CA 820968 1969
- (10) Anon; GB 1177470 1970 HCAPLUS
- (11) Anon; JP 74024046 1974 HCAPLUS
- (12) Anon; JP 74024890 1974 HCAPLUS
- (13) Anon; JP 74024890 1974
- (14) Anon; JP 50-4018 1975
- (15) Anon; GB 1510256 1978
- (16) Bernard; US 2676190 1954 HCAPLUS
- (17) Biola; US 4225516 1980 HCAPLUS
- (18) Blake; US 2745745 1956 HCAPLUS
- (19) Blake; US 2938053 1960 HCAPLUS
- (20) Brzozowski, Z; Roczniki Chem 1959, V33, P217 HCAPLUS
- (21) Brzozowski, Z; Roczniki Chem 1959, V33, P217 HCAPLUS
- (22) Cunningham; US 2626282 1953 HCAPLUS
- (23) Darcas; US 3699148 1972 HCAPLUS
- (24) Gresham; US 2542768 1951 HCAPLUS
- (25) Hsu; US 5352837 1994 HCAPLUS
- (26) Hunt; US 2776996 1957 HCAPLUS
- (27) Koberstein; US 4048232 1977 HCAPLUS
- (28) Komora; US 4319047 1982 HCAPLUS

(29) Livak; US 2557913 1951 HCAPLUS
(30) Mannsfeld; US 3878057 1975 HCAPLUS
(31) Meyer; US 3574766 1971
(32) Ouchi; US 3833651 1974 HCAPLUS
(33) Pierson; US 2523633 1950 HCAPLUS
(34) Pierson; US 2584496 1952 HCAPLUS
(35) Sawaki; US 3438868 1969 HCAPLUS
(36) Shima; US 3529940 1970
(37) Vander Weele; US 2521677 1950 HCAPLUS
IT 3268-49-3P, 3-(Methylthio)propanal
RL: IMF (Industrial manufacture); RCT (Reactant); SPN
(Synthetic preparation); PREP (Preparation); RACT (Reactant
or reagent)
(preparation of (methylthio)propanal and
hydroxy(methylthio)butanenitrile)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

IT 74-93-1, Methyl mercaptan, reactions 107-02-8, Acrolein,
reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (methylthio)propanal and hydroxy(methylthio)butanenitrile)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

L34 ANSWER 8 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:165266 HCAPLUS
DN 126:157183
ED Entered STN: 12 Mar 1997
TI Process for the continuous preparation of 3-(methylthio)propanal from
acrolein and methyl mercaptan
IN Hsu, Yung C.
PA Novus International, Inc., USA
SO PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07C319-18
ICS C07C323-22
CC 23-14 (Aliphatic Compounds)
Section cross-reference(s): 45, 48
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9700858	A1	19970109	WO 1996-US10920	19960621 <--
	W:	AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI			
	RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML			
	US 5905171	A	19990518	US 1996-667099	19960620 <--
	AU 9663959	A1	19970122	AU 1996-63959	19960621 <--
	AU 726921	B2	20001123		
	EP 842149	A1	19980520	EP 1996-923452	19960621 <--
	EP 842149	B1	20030205		
	R:	BE, DE, DK, ES, FR, GB, IT, LU, NL, MC, PT, IE			
	CN 1188470	A	19980722	CN 1996-194943	19960621 <--
	CN 1120834	B	20030910		
	JP 11508266	T2	19990721	JP 1997-504005	19960621 <--

Search done by Noble Jarrell

RU 2172734	C2	20010827	RU 1998-100590	19960621 <--
ES 2192607	T3	20031016	ES 1996-923452	19960621 <--
PRAI US 1995-421P	P	19950622	<--	
US 1996-667099	A	19960620	<--	
WO 1996-US10920	W	19960621	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES	
WO 9700858	ICM	C07C319-18	
	ICS	C07C323-22	
WO 9700858	ECLA	C07C319/18	<--
US 5905171	ECLA	C07C319/18	<--
OS	CASREACT 126:157183		
AB	<p>In the title process, a liquid reaction, medium containing 3-(methylthio)propanal and a catalyst for the reaction between Me mercaptan and acrolein, is contacted with a gaseous acrolein feed stream in a gas-liquid contact zone. The gaseous acrolein feed stream comprises acrolein vapor and noncondensable gas and the acrolein is transferred from the acrolein feed stream to the reaction medium. Me mercaptan, introduced into the reaction medium, reacts with the acrolein in that medium, producing a liquid reaction product containing 3-(methylthio)propanal. The noncondensable gas is then separated from the liquid reaction product the reaction product is divided into a produce fraction and a circulating fraction, and the circulating fraction is recycled to the gas/liquid contact zone. Process flow diagrams are presented.</p>		
ST	methylthiopropional continuous prepn; acrolein reaction methylthiol prepn		
IT	<p>Addition reaction (of acrolein and Me mercaptan in the continuous preparation of 3-(methylthio)propanal)</p>		
IT	<p>3268-49-3P, 3-(Methylthio)propanal RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation) (process for the continuous preparation of 3-(methylthio)propanal from acrolein and Me mercaptan)</p>		
IT	<p>74-93-1, Methanethiol, reactions 107-02-8, Acrolein, reactions RL: RCT (Reactant); RACT (Reactant or reagent) (process for the continuous preparation of 3-(methylthio)propanal from acrolein and Me mercaptan)</p>		
IT	<p>3268-49-3P, 3-(Methylthio)propanal RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation) (process for the continuous preparation of 3-(methylthio)propanal from acrolein and Me mercaptan)</p>		
RN	3268-49-3	HCAPLUS	
CN	Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)		

$$\text{MeS}-\text{CH}_2-\text{CH}_2-\text{CHO}$$

IT 74-93-1, Methanethiol, reactions 107-02-8, Acrolein, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for the continuous preparation of 3-(methylthio)propanal from acrolein and Me mercaptan)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

$$\text{H}_3\text{C}-\text{SH}$$

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)

$$\text{H}_2\text{C}=\text{CH}-\text{CH}=\text{O}$$

L34 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:111227 HCAPLUS

DN 126:117741

ED Entered STN: 17 Feb 1997

TI Processes and catalysts for the preparation of 3-(methylthio)propanal and
2-hydroxy-4-(methylthio)butanenitrile
IN Blackburn, Thomas F.; Pellegrin, Paul F.; Kranz, Allen H.
PA Novus International, Inc., USA
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07C319-18
ICS C07C319-20; C07C323-22; C07C323-60
CC 23-19 (Aliphatic Compounds)
Section cross-reference(s): 45, 67

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9640631	A1	19961219	WO 1996-US9060	19960604 <--
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
US 5663409	A	19970902	US 1995-476356	19950607 <--
US 5705675	A	19980106	US 1995-581249	19951229 <--
AU 9659873	A1	19961230	AU 1996-59873	19960604 <--
AU 714151	B2	19991223		
EP 830341	A1	19980325	EP 1996-917222	19960604 <--
EP 830341	B1	20010905		
R: BE, DE, DK, ES, FR, GB, IT, LU, NL, MC, PT, IE				
JP 11511119	T2	19990928	JP 1997-501471	19960604 <--
RU 2173681	C2	20010920	RU 1998-100220	19960604 <--
PRAI US 1995-476356	A	19950607 <--		
US 1995-581249	A	19951229 <--		
WO 1996-US9060	W	19960604 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9640631	ICM	C07C319-18
	ICS	C07C319-20; C07C323-22; C07C323-60
WO 9640631	ECLA	C07C319/18; C07C319/20 <--

OS MARPAT 126:117741

AB 3-(Methylthio)propanal (I) is prepared by the addition reaction of MeSH with acrolein, 2-hydroxy-4-(methylthio)butanenitrile is prepared by the addition reaction of I with HCN, and both reactions are conducted in the presence of an addition reaction catalysts comprising .gtoreq.1 organic base(s) (e.g., triisopropanolamine, nicotinamide, imidazole, benzimidazole, 2-fluoropyridine, poly-4-vinylpyridine, 4-dimethylaminopyridine, picoline, pyrazine, trialkylamines, etc.).

ST hydroxymethylthiobutanenitrile prepn; methylthiopropional prepn; addn reaction catalyst prepn hydroxymethylthiobutanenitrile

IT Addition reaction catalysts
(amines for the preparation of 3-(methylthio)propanal and 2-hydroxy-4-(methylthio)butanenitrile)

IT Amines, uses
RL: CAT (Catalyst use); USES (Uses)
(catalysts for the preparation of 3-(methylthio)propanal and 2-hydroxy-4-(methylthio)butanenitrile)

IT 51-17-2, Benzimidazole 98-92-0, Nicotinamide 102-69-2, Tripropylamine 122-20-3, Triisopropanolamine 150-59-4 288-32-4, Imidazole, uses 290-37-9, Pyrazine 372-48-5, 2-Fluoropyridine 1122-58-3, 4-Dimethylaminopyridine 1333-41-1, Picoline 13977-33-8, N-Methyldiphenethylamine 25232-41-1, 4-Vinylpyridine homopolymer

RL: CAT (Catalyst use); USES (Uses)
(processes and catalysts for the preparation of 3-(methylthio)propanal and 2-hydroxy-4-(methylthio)butanenitrile)

IT 64-19-7, Acetic acid, reactions 74-90-8, Hydrogen cyanide, reactions 74-93-1, Methanethiol, reactions 107-02-8, Acrolein, reactions 7664-38-2, Phosphoric acid, reactions 7664-93-9, Sulfuric acid, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(processes and catalysts for the preparation of 3-(methylthio)propanal and 2-hydroxy-4-(methylthio)butanenitrile)

IT 3268-49-3P, 3-(Methylthio)propanal
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(processes and catalysts for the preparation of 3-(methylthio)

propanal and 2-hydroxy-4-(methylthio)butanenitrile)
 IT 17773-41-OP, 2-Hydroxy-4-(methylthio)butanenitrile
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (processes and catalysts for the preparation of 3-(methylthio)
 propanal and 2-hydroxy-4-(methylthio)butanenitrile)
 IT 74-93-1, Methanethiol, reactions 107-02-8, Acrolein,
 reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (processes and catalysts for the preparation of 3-(methylthio)propanal and
 2-hydroxy-4-(methylthio)butanenitrile)
 RN 74-93-1 HCAPLUS
 CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

RN 107-02-8 HCAPLUS
 CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 3268-49-3P, 3-(Methylthio)propanal
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (processes and catalysts for the preparation of 3-(methylthio)
 propanal and 2-hydroxy-4-(methylthio)butanenitrile)
 RN 3268-49-3 HCAPLUS
 CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

L34 ANSWER 10 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1996:537082 HCAPLUS
 DN 125:167345
 ED Entered STN: 07 Sep 1996
 TI Preparation of 2-hydroxy-4-(methylmercapto)butyric acid from acrolein and
 methyl mercaptan without using sulfuric acid
 IN Matsuoka, Kazuyuki
 PA Daicel Chem, Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C07C323-52
 ICS C07C319-18; C07C319-20
 CC 23-17 (Aliphatic Compounds)
 Section cross-reference(s): 17

FAN.CNT 1					
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08157447	A2	19960618	JP 1993-159132	19930629 <--
	JP 3169103	B2	20010521		
PRAI	JP 1993-159132		19930629	<--	

CLASS		
PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 08157447	ICM	C07C323-52
	ICS	C07C319-18; C07C319-20

AB MeS(CH₂)₂CH(OH)CO₂H (I), which is used as a feed additive, is prepared from
 CH₂:CHCHO and MeSH, via MeS(CH₂)₂CHO, MeS(CH₂)₂CH(OH)CN (II),
 MeS(CH₂)₂CH(OH)CONH₂ (III), and esters of MeS(CH₂)₂CH(OH)CO₂H. Hydration
 of II in aqueous Me₂CO in the presence of MnO₂ at 60.degree. for 6 h gave
 89.0% III, which was autoclaved with MeOH and Pb nitrate at 170.degree.
 and 20 kg/cm² for 5 h with removing NH₃ to afford MeS(CH₂)₂CH(OH)CO₂Me at
 83% conversion and 85% selectivity. Hydrolysis of the ester with
 Amberlyst 15 in H₂O at 95.degree. for 5 h gave I at 98.8% conversion and
 97.1% selectivity.
 ST hydroxymethylmercaptobutyrate prepn feed additive; acrolein addn methyl
 mercaptan; hydroxymethylmercaptobutyronitrile hydration
 IT Feed

(additive for; preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)

IT Hydration, chemical
(hydration of hydroxy(methylmercapto)butyronitrile without using sulfuric acid in preparation of hydroxy(methylmercapto)butyric acid)

IT 74-90-8P, Prussic acid, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(in preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)

IT 583-91-5P, 2-Hydroxy-4-(methylmercapto)butyric acid
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)

IT 3268-49-3P, 3-(Methylmercapto)propionaldehyde 49540-21-8P,
17773-41-0P, 2-Hydroxy-4-(methylthio)butyronitrile 52703-96-5P,
2-Hydroxy-4-(methylthio)butyramide
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)

IT 74-93-1, Methyl mercaptan, reactions 107-02-8,
2-Propenal, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)

IT 7664-41-7P, Ammonia, preparation
RL: BYP (Byproduct); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(recycling of; in preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)

IT 3268-49-3P, 3-(Methylmercapto)propionaldehyde
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)

RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

IT 74-93-1, Methyl mercaptan, reactions 107-02-8,
2-Propenal, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of hydroxy(methylmercapto)butyric acid from acrolein and Me mercaptan without using sulfuric acid)

RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

E34 ANSWER 11 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:252233 HCAPLUS
DN 124:288769
ED Entered STN: 30 Apr 1996
TI Preparation of 3-(methylthio)propanal
IN Hsu, Yung C.; Ruest, Dennis A.
PA Novus International, Inc., USA
SO PCT Int. Appl., 70 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07C323-50
ICS C07C323-51

CC 23-14 (Aliphatic Compounds)

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9601810	A1	19960125	WO 1995-US8532	19950706 <--
	W: AM, AT, AU, BB, BG, BR, BY, CA, CN, CZ, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SG, SI, SK, TJ, TM, TT, UA, UG, UZ, VN				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9530939	A1	19960209	AU 1995-30939	19950706 <--
	AU 699841	B2	19981217		
	EP 770062	A1	19970502	EP 1995-926631	19950706 <--
	R: BE, DE, DK, ES, FR, GB, IE, IT, LU, MC, NL, PT				
	CN 1152913	A	19970625	CN 1995-194068	19950706 <--
	JP 10504812	T2	19980512	JP 1996-504405	19950706 <--
	RU 2149159	C1	20000520	RU 1997-102147	19950706 <--
	CN 1222507	A	19990714	CN 1998-115072	19980624 <--
PRAI	US 1994-273216	A	19940711	<--	
	WO 1995-US8532	W	19950706	<--	

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	WO 9601810	ICM	C07C323-50
		ICS	C07C323-51
	WO 9601810	ECLA	C07C045/35+47/22; C07C319/18 <--
AB	The title process comprises condensation of CH ₂ :CHCHO from a feed stream in a gas/liquid contact zone containing MeSCH ₂ CH ₂ CHO, MeSH, and catalyst, separation of non-condensable material from the feed stream, and withdrawal of liquid which is divided into a product stream and a stream which is returned to the gas/liquid contact zone.		
ST	methylthiopropenal; acrolein addn methanethiol		
IT	3268-49-3P, 3-(Methylthio)propanal		
	RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation) (preparation of 3-(methylthio)propanal)		
IT	74-93-1, Methanethiol, reactions 107-02-8, Acrolein, reactions		
	RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of 3-(methylthio)propanal)		
IT	3268-49-3P, 3-(Methylthio)propanal		
	RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation) (preparation of 3-(methylthio)propanal)		
RN	3268-49-3 HCAPLUS		
CN	Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)		

MeS-CH₂-CH₂-CHO

IT 74-93-1, Methanethiol, reactions 107-02-8, Acrolein, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of 3-(methylthio)propanal)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

L34 ANSWER 12 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:183935 HCAPLUS

DN 122:9491

ED Entered STN: 12 Nov 1994

TI Continuous process for preparation of 3-(methylthio)propanal from a

Search done by Noble Jarrell

gaseous acrolein feed stream
 IN Hsu, Yung C.; Ruest, Dennis A.
 PA Novus International, Inc., USA
 SO U.S., 16 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C07C323-50
 ICS C07C323-51
 NCL 568041000
 CC 23-14 (Aliphatic Compounds)
 Section cross-reference(s): 45
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5352837	A	19941004	US 1993-73763	19930608 <--
	ZA 9305850	A	19940525	ZA 1993-5850	19930811 <--
	WO 9429254	A1	19941222	WO 1993-US8552	19930909 <--
	W:	AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, VN			
	RW:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	AU 9351268	A1	19950103	AU 1993-51268	19930909 <--
	AU 673856	B2	19961128		
	BR 9307864	A	19960123	BR 1993-7864	19930909 <--
	EP 703890	A1	19960403	EP 1993-922171	19930909 <--
	EP 703890	B1	19990407		
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE			
	JP 09501145	T2	19970204	JP 1993-501709	19930909 <--
	RU 2118314	C1	19980827	RU 1996-100238	19930909 <--
	EP 889029	A2	19990107	EP 1998-114518	19930909 <--
	EP 889029	A3	20020313		
	R:	BE, DE, DK, ES, FR, GB, IT, LU, NL, MC, PT, IE			
	AT 178594	E	19990415	AT 1993-922171	19930909 <--
	ES 2131120	T3	19990716	ES 1993-922171	19930909 <--
	CN 1096779	A	19941228	CN 1993-118591	19931009 <--
	CN 1041414	B	19981230		
	US 5637766	A	19970610	US 1995-557699	19951113 <--
	US 5925794	A	19990720	US 1996-668572	19960620 <--
	US 5744647	A	19980428	US 1996-679701	19960711 <--
	US 6031138	A	20000229	US 1998-102025	19980622 <--
	US 6320076	B1	20011120	US 1999-470407	19991222 <--
	US 2002173677	A1	20021121	US 2001-972748	20011005 <--
	US 6548701	B2	20030415		
PRAI	US 1993-73763	A	19930608	<--	
	EP 1993-922171	A3	19930909	<--	
	WO 1993-US8552	W	19930909	<--	
	US 1994-273216	B1	19940711	<--	
	US 1995-421P	P	19950622	<--	
	US 1995-557699	A2	19951113	<--	
	US 1996-667099	B1	19960620	<--	
	US 1996-668572	B1	19960620	<--	
	US 1998-102025	A3	19980622	<--	
	US 1999-470407	A1	19991222	<--	

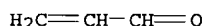
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5352837	ICM	C07C323-50
	ICS	C07C323-51
	NCL	568041000
WO 9429254	ECLA	C07C045/35+47/22; C07C045/78A; C07C045/81; C07C319/18
		<--
EP 889029	ECLA	C07C319/18
		<--
US 5744647	ECLA	C07C045/35+47/22
		<--
US 6031138	ECLA	C07C319/18
		<--
US 6320076	ECLA	C07C045/35+47/22; C07C045/78A; C07C045/81; C07C319/18
		<--
US 2002173677	ECLA	C07C045/35+47/22; C07C045/78A; C07C045/81; C07C319/18
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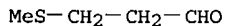
AB A process for the continuous preparation of 3-(methylthio)propanal. A liquid reaction medium is contacted with a gaseous acrolein feed stream in a gas/liquid contact zone. The reaction medium contains 3-(methylthio)propanal, Me mercaptan and a catalyst for the reaction between Me mercaptan and acrolein. The gaseous acrolein feed stream comprises acrolein vapor and non-condensable gas. Acrolein is transferred from the

acrolein feed stream to the reaction medium and reacts with Me mercaptan in that medium to produce a liquid reaction product containing 3-(methylthio)propanal. The non-condensable gas is separated from the liquid reaction product. The reaction product is divided into a product fraction and a circulating fraction, and the circulating fraction is recycled to the gas/liquid contact zone.

- ST methylthiopropenal prepn continuous process; propanal methylthio prepn continuous process; acrolein reaction methyl mercaptan continuous process
- IT 74-98-6P, Propane, preparation 75-07-0P, Acetaldehyde, preparation 79-10-7P, Acrylic acid, preparation 123-38-6P, Propanal, preparation
 RL: BYP (Byproduct); PREP (Preparation)
 (continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)
- IT 5153-63-9, Pyridinium acetate
 RL: CAT (Catalyst use); USES (Uses)
 (continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)
- IT 107-02-8P, Acrolein, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)
- IT 3268-49-3P, 3-(Methylthio)propanal
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)
- IT 7732-18-5P, Water, preparation
 RL: PNU (Preparation, unclassified); PREP (Preparation)
 (continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)
- IT 74-93-1, Methyl mercaptan, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)
- IT 115-07-1, Propylene, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidation to acrolein; continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)
- IT 107-02-8P, Acrolein, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)
- RN 107-02-8 HCAPLUS
 CN 2-Propenal (9CI) (CA INDEX NAME)



- IT 3268-49-3P, 3-(Methylthio)propanal
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
 (continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)
- RN 3268-49-3 HCAPLUS
 CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



- IT 74-93-1, Methyl mercaptan, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (continuous process for preparation of 3-(methylthio)propanal from a gaseous acrolein feed stream)
- RN 74-93-1 HCAPLUS
 CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

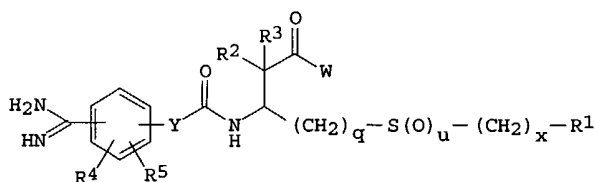


L34 ANSWER 13 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1994:655416 HCAPLUS
 DN 121:255416
 ED Entered STN: 26 Nov 1994
 TI Phenyl amidine thio derivatives useful as platelet aggregation inhibitors
 IN Adams, Steven Paul; Lindmark, Richard John; Miyano, Masateru; Rico, Joseph Gerace
 PA G.D. Searle and Co., USA; Monsanto Co.
 SO PCT Int. Appl., 94 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM C07C317-50
 ICS C07C323-59; C07D213-71; A61K031-155; A61K031-44
 CC 25-19 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
 Section cross-reference(s): 1
 FAN.CNT 1

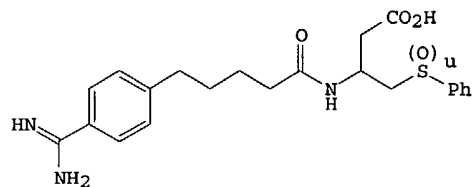
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9418162	A1	19940818	WO 1994-US600	19940131 <--
	W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, UZ, VN				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5409939	A	19950425	US 1993-17203	19930212 <--
	AU 9462299	A1	19940829	AU 1994-62299	19940131 <--
	US 5543425	A	19960806	US 1994-330486	19941028 <--
PRAI	US 1993-17203	A	19930212	<--	
	WO 1994-US600	W	19940131	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9418162	ICM	C07C317-50
	ICS	C07C323-59; C07D213-71; A61K031-155; A61K031-44
US 5409939	ECLA	C07C317/28; C07C317/50; C07C323/59; C07D213/71 <--
OS	MARPAT 121:255416	
GI		



I



II

AB The invention relates to compds. I [R1 = alkyl, (un)substituted Ph, 5- or 6-membered heteroaryl containing 1 N, O, or S atom; R2, R3 = H, alkyl; R4, R5 = H, alkyl, alkoxy, halo; Y = alkylene, alkenylene, alkynylene; W = OR where R = H or alkyl; q = 1-4; u = 0-2; x = 0-3], which are useful in the inhibition of platelet aggregation. For example, alkylation of PhSH by ClCH2COCH2CO2Me, reductive amination of the resulting PhSCH2COCH2CO2Me, and hydrolysis, gave (.-.-)-PhSCH2CH(NH2)CH2CO2H, which was coupled with p-[H2NC(:NH)]C6H4(CH2)4CO2H using di-N,N'-succinimidyl carbonate and DMAP, to give title compound (.-.-)-II (u = 0). Stepwise oxidation with H2O2 in aqueous AcOH gave the sulfinyl compound (.-.-)-II (u = 1) and then the sulfone (.-.-)-II (u = 2). The latter had an IC50 of 0.028 .mu.M for inhibition of collagen-induced aggregation in canine platelet-rich plasma in vitro.

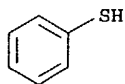
ST amidinophenyl thio prepn platelet aggregation inhibitor
 IT Blood platelet aggregation inhibitors
 (preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
 IT 158510-09-9P 158510-15-7P 158510-23-7P 158510-27-1P 158510-31-7P
 158510-35-1P 158510-39-5P 158510-45-3P 158510-49-7P 158535-26-3P
 158570-13-9P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
 IT 158510-11-3P 158510-13-5P 158510-17-9P 158510-19-1P 158510-21-5P
 158510-25-9P 158510-29-3P 158510-33-9P 158510-37-3P 158510-41-9P
 158510-43-1P 158510-47-5P 158510-51-1P 158510-53-3P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
 IT 100-53-8, Benzyl mercaptan 107-02-8, Acrolein, reactions
 108-98-5, Thiophenol, reactions 124-63-0, Methanesulfonyl
 chloride 371-42-6, p-Fluorothiophenol 590-17-0,
 Bromoacetonitrile 623-73-4, Ethyl diazoacetate 696-63-9,
 p-Methoxythiophenol 1071-46-1, Ethyl hydrogen malonate 1073-72-9,
 p-Methyl(thiophenol) 2637-34-5, 2-Mercaptopyridine 5188-07-8,
 Sodium thiomethoxide 7022-45-9, 2-(Methylthio)benzaldehyde 7536-58-5,
 N-(tert-Butoxycarbonyl)aspartic acid, .beta.-benzyl ester 32807-28-6,
 Methyl 4-chloroacetoacetate 152151-37-6, 5-(p-Amidinophenyl)pentanoic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
 IT 3268-49-3P, 3-(Methylthio)propionaldehyde
 21681-88-9P, p-Tolylthioacetone 42404-23-9P, 1-Amino-2-(4-tolylthio)ethane 71483-05-1P, 4-(Phenylthio)-3-oxobutanoic acid
 79069-16-2P, (S)-Benzyl 3-(tert-butoxycarbonylamino)-4-hydroxybutyrate
 118123-92-5P, 5-(Methylthio)-3-oxopentanoic acid 118743-11-6P
 149193-64-6P, (S)-Benzyl 3-(tert-butoxycarbonylamino)-4-(methylsulfonyloxy)butyrate 158510-54-4P, (.+.)-3-Amino-5-(benzylthio)pentanoic acid 158510-55-5P 158510-56-6P, (.+.)-3-Amino-4-(4-methylphenylthio)butanoic acid 158510-57-7P, (.+.)-3-Amino-4-(4-methylphenylthio)butanoic acid methyl ester 158510-58-8P, (.+.)-3-Amino-4-(4-methoxyphenylthio)butanoic acid 158510-59-9P 158510-60-2P, (.+.)-3-Amino-4-(4-methoxyphenylthio)butanoic acid methyl ester 158510-61-3P 158510-62-4P, (.+.)-3-Amino-4-(4-fluorophenylthio)butanoic acid methyl ester 158510-63-5P, (.+.)-3-Amino-4-(2-pyridylthio)butanoic acid 158510-64-6P 158510-65-7P, (.+.)-3-Amino-4-(2-pyridylthio)butanoic acid methyl ester 158510-66-8P, (.+.)-3-Amino-4-(phenylthio)butanoic acid 158510-68-0P, (.+.)-3-Amino-3-[2-(methylthio)phenyl]propanoic acid 158510-69-1P, (S)-Benzyl 3-amino-4-(2-pyridylsulfonyl)butyrate 158510-70-4P, (S)-Benzyl 3-(tert-butoxycarbonylamino)-4-(2-pyridylthio)butyrate 158570-14-0P, (.+.)-3-Amino-5-(methylthio)pentanoic acid 158702-52-4P, (.+.)-3-Amino-4-(4-fluorophenylthio)butanoic acid 170726-32-6P, (.+.)-3-Amino-4-(phenylthio)butanoic acid methyl ester
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
 IT 100-53-8, Benzyl mercaptan 107-02-8, Acrolein, reactions
 108-98-5, Thiophenol, reactions 371-42-6, p-Fluorothiophenol 696-63-9, p-Methoxythiophenol 5188-07-8, Sodium thiomethoxide
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
 RN 100-53-8 HCAPLUS
 CN Benzenemethanethiol (9CI) (CA INDEX NAME)

HS-CH₂-Ph

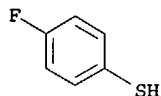
RN 107-02-8 HCAPLUS
 CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

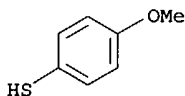
RN 108-98-5 HCAPLUS
CN Benzenethiol (8CI, 9CI) (CA INDEX NAME)



RN 371-42-6 HCAPLUS
CN Benzenethiol, 4-fluoro- (9CI) (CA INDEX NAME)



RN 696-63-9 HCAPLUS
CN Benzenethiol, 4-methoxy- (9CI) (CA INDEX NAME)



RN 5188-07-8 HCAPLUS
CN Methanethiol, sodium salt (8CI, 9CI) (CA INDEX NAME)

$\text{H}_3\text{C}-\text{SH}$

● Na

IT 3268-49-3P, 3-(Methylthio)propionaldehyde
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation of Ph amidine thio derivs. as platelet aggregation inhibitors)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

$\text{MeS}-\text{CH}_2-\text{CH}_2-\text{CHO}$

L34 ANSWER 14 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:133858 HCAPLUS
DN 120:133858
ED Entered STN: 19 Mar 1994
TI Process for producing 2-hydroxy-4-methylthiobutanoic acid
IN Matsuoka, Kazuyuki
PA Daicel Chemical Industries, Ltd., Japan
SO PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C07C323-52
CC 23-16 (Aliphatic Compounds)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9323372	A1	19931125	WO 1993-JP659	19930520 <--
	W: US				
	RW: BE, DE, FR, GB				
	JP 06049020	A2	19940222	JP 1993-143026	19930520 <--
	JP 3219544	B2	20011015		
	EP 601195	A1	19940615	EP 1993-910360	19930520 <--

Search done by Noble Jarrell

EP 601195 B1 19960828
 R: BE, DE, FR, GB
 CN 1084511 A 19940330 CN 1993-107598 19930521 <--
 CN 1036391 B 19971112
 US 5386056 A 19950131 US 1994-178315 19940112 <--
 PRAI JP 1992-155802 A 19920521 <--
 WO 1993-JP659 W 19930520 <--

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9323372	ICM	C07C323-52
EP 601195	ECLA	C07C319/18; C07C319/20 <--
US 5386056	ECLA	C07C319/18; C07C319/20 <--

OS CASREACT 120:133858

AB A process for producing 2-hydroxy-4-methylthiobutanoic acid (I) together with methanol comprises hydrating 2-hydroxy-4-methylthiobutyronitrile (II) into 2-hydroxy-4-methylthiobutanamide (III), reacting the amide with Me formate to yield Me 2-hydroxy-4-methylthiobutanoate (IV) and formamide, and hydrolyzing the Me ester. The discharge of a large amount of ammonium sulfate can be prevented, because no sulfuric acid is used as the reactant. The byproduct formamide and methanol are utilizable as the starting material of the reaction after converting them into HCN and Me formate, resp. Thus, addition of MeSH to acrolein in the presence of Cu(OAc)₂ and hydroquinone and addition of the resulting 3-methylthiopropionaldehyde with HCN in the presence of NaOH in MeOH gave II. Hydration of II in the presence of MnO₂ in aqueous acetone at 60.degree. for 6 h to give III which was reacted with HCO₂Me in MeOH containing MeONa to give IV and the byproduct formamide. Hydrolysis of IV in the presence of Amberlyst 15 in H₂O at 95.degree. gave I, while the byproduct MeOH was recovered. Formamide was fed into a stainless steel reactor packed with alumina at 500.degree. to give HCN. MeOH was contacted with a catalyst prepared from Cu(NO₃)₂ and ammonium chromate in a stainless steel reactor to give Me formate.

ST hydroxymethylthiobutanoic acid prepn; hydroxymethylthiobutyronitrile hydration; hydroxymethylthiobutanamide esterification methyl formate

IT 107-02-8, Acrolein, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition of, with methanethiol)

IT 74-90-8, Hydrogen cyanide, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition of, with methylthiopropionaldehyde)

IT 74-93-1, Methanethiol, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction of, with acrolein)

IT 3251-23-8, Copper nitrate

RL: CAT (Catalyst use); USES (Uses)
 (catalyst from ammonium chromate and, for conversion of methanol into Me formate)

IT 7788-98-9, Ammonium chromate

RL: CAT (Catalyst use); USES (Uses)
 (catalyst from copper nitrate and, for conversion of methanol into Me formate)

IT 1344-28-1, Alumina, uses

RL: CAT (Catalyst use); USES (Uses)
 (catalyst, for dehydration of formamide to hydrogen cyanide)

IT 107-31-3, Methyl formate

RL: RCT (Reactant); RACT (Reactant or reagent)
 (esterification by, of hydroxymethylthiobutanamide)

IT 67-56-1P, Methanol, reactions

RL: SPN (Synthetic preparation); PREP (Preparation)
 (formation and conversion of, into Me formate, in preparation of hydroxy(methylthio)butanoic acid)

IT 75-12-7P, Formamide, reactions

RL: SPN (Synthetic preparation); PREP (Preparation)
 (formation and conversion of, into hydrogen cyanide, in preparation of hydroxy(methylthio)butanoic acid)

IT 3268-49-3P, 3-Methylthiopropionaldehyde

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and addition of, with hydrogen cyanide)

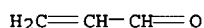
IT 49540-21-8P, 2-Hydroxy-4-methylthiobutanamide

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and esterification of, by Me formate)

IT 17773-41-0P, 2-Hydroxy-4-methylthiobutyronitrile

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and hydration of)

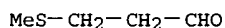
IT 52703-96-5P, Me 2-hydroxy-4-methylthiobutanoate
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and saponification of)
 IT 583-91-5P, 2-Hydroxy-4-methylthiobutanoic acid
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, via addition of acrolein with methanethiol and hydrogen
 cyanide and hydration and esterification of
 hydroxymethylthiobutanamide)
 IT 107-02-8, Acrolein, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition of, with methanethiol)
 RN 107-02-8 HCAPLUS
 CN 2-Propenal (9CI) (CA INDEX NAME)



IT 74-93-1, Methanethiol, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction of, with acrolein)
 RN 74-93-1 HCAPLUS
 CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



IT 3268-49-3P, 3-Methylthiopropionaldehyde
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and addition of, with hydrogen cyanide)
 RN 3268-49-3 HCAPLUS
 CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 15 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1990:630786 HCAPLUS
 DN 113:230786
 ED Entered STN: 22 Dec 1990
 TI Photochemical preparation of 3-(organothio)aldehydes from a mercaptan and
 .alpha.,.beta.-unsaturated aliphatic aldehydes
 IN Sandler, Stanley R.
 PA Pennwalt Corp., USA
 SO U.S., 3 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM B01J019-08
 NCL 204157760
 CC 23-14 (Aliphatic Compounds)
 Section cross-reference(s): 5, 62

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4944853	A	19900731	US 1989-405784	19890911 <--
	IN 173789	A	19940716	IN 1990-CA292	19900409 <--
	JP 03184952	A2	19910812	JP 1990-94184	19900411 <--
	EP 417386	A1	19910320	EP 1990-107565	19900420 <--
	R: BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
	AU 9053784	A1	19910411	AU 1990-53784	19900423 <--
	AU 631202	B2	19921119		
	BR 9001870	A	19911112	BR 1990-1870	19900423 <--
PRAI	US 1989-405784	A	19890911	<--	

CLASS

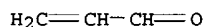
PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 4944853	ICM	B01J019-08
	NCL	204157760

OS CASREACT 113:230786; MARPAT 113:230786

AB 3-(Organothio)aldehydes R1CH(SR2)CH2CHO (I; R1 = H, C1-7 alkyl; R2 = C1-12
 alkyl, C5-6 cycloalkyl, C6-12 aryl or alkaryl), useful as intermediates

for the preparation of pesticides and antioxidants and as odorant or flavoring agents, are prepared by reaction of a mercaptan with substantially equimolar amount of .alpha.,.beta.-unsatd. aliphatic aldehyde at .apprx.2.degree.-60.degree. in the absence of O-containing gas. Thus, a solution of 3.0 mol EtSH and 3.0 mol crotonaldehyde was cooled to 2-20.degree. and was photolyzed in a 500 mL borosilicate reactor under the irradiation with a 450 W Hanovia high-pressure Hg lamp, while a slow stream of N was passed into the reactor. I (R1 = Me, R2 = Et) was obtained in 55.2% yield.

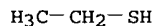
ST unsatd aldehyde photochem addn mercaptan
 IT Antioxidants
 IT Pesticides
 (intermediates for, .gamma.-(organothio)alkanals as)
 IT Addition reaction
 (photochem., of .alpha.,.beta.-unsatd. aldehydes with mercaptans)
 IT 4170-30-3, Crotonaldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (photochem. addition of, with Et mercaptan)
 IT 107-02-8, Acrolein, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (photochem. addition of, with Me mercaptan)
 IT 74-93-1, Methyl mercaptan, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (photochem. addition of, with acrolein)
 IT 75-08-1, Ethyl mercaptan
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (photochem. addition of, with crotonaldehyde)
 IT 3268-49-3P, 3-(Methylthio)propanal
 27205-24-9P, 3-(Ethylthio)butanal
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, photochem. addition in)
 IT 107-02-8, Acrolein, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (photochem. addition of, with Me mercaptan)
 RN 107-02-8 HCAPLUS
 CN 2-Propenal (9CI) (CA INDEX NAME)



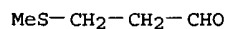
IT 74-93-1, Methyl mercaptan, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (photochem. addition of, with acrolein)
 RN 74-93-1 HCAPLUS
 CN Methanethiol (8CI, 9CI) (CA INDEX NAME)



IT 75-08-1, Ethyl mercaptan
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (photochem. addition of, with crotonaldehyde)
 RN 75-08-1 HCAPLUS
 CN Ethanethiol (8CI, 9CI) (CA INDEX NAME)



IT 3268-49-3P, 3-(Methylthio)propanal
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, photochem. addition in)
 RN 3268-49-3 HCAPLUS
 CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 16 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1985:487504 HCAPLUS
 DN 103:87504
 ED Entered STN: 22 Sep 1985
 TI Continuous preparation of .beta.-methylmercaptopropionaldehyde

IN Pavlovschi, Ana Maria; Levinta, Lucia; Gross, Gernot Holger
 PA Combinatul Petrochimic, Pitesti, Rom.
 SO Rom., 2 pp.
 CODEN: RUXXA3
 DT Patent
 LA Romanian
 IC ICM C07C151-00
 CC 23-14 (Aliphatic Compounds)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RO 85095	B	19840924	RO 1982-106977	19820322 <--
PRAI	RO 1982-106977		19820322	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
RO 85095	ICM	C07C151-00

AB The addition reaction of CH₂:CHCHO with MeSH at atmospheric pressure at 30-45.degree. gave MeSCH₂CH₂CHO in high yields.
 ST addn acrolein methanethiol; propionaldehyde methylthio; methylthiopropionaldehyde
 IT Addition reaction
 (of acrolein with methanethiol)
 IT 74-93-1, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition of, with acrolein)
 IT 107-02-8, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition of, with methanethiol)
 IT 3268-49-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 74-93-1, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition of, with acrolein)
 RN 74-93-1 HCAPLUS
 CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

IT 107-02-8, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition of, with methanethiol)
 RN 107-02-8 HCAPLUS
 CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 3268-49-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 3268-49-3 HCAPLUS
 CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

L34 ANSWER 17 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1984:105476 HCAPLUS
 DN 100:105476
 ED Entered STN: 12 May 1984
 TI New process solved handling problems
 AU Niklasson, Rune
 CS Rhone-Poulenc, Fr.
 SO Kemisk Tidskrift (1969-1993) (1983), 95(12), 33
 CODEN: KETIAL; ISSN: 0039-6605
 DT Journal
 LA Swedish
 CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
 Section cross-reference(s): 34

Search done by Noble Jarrell

AB The handling of toxic, flammable acrolein [107-02-8] in the manufacture of methionine [59-51-8] via MeSCH₂CH₂CHO (I) [3268-49-3] is minimized by in-plant synthesis of acrolein (from propene) and absorption in I prior to reaction with MeSH [74-93-1] to give I.

ST acrolein prepn conversion methylthiopropenal; methylthiopropenal prepn conversion methionine; methionine manuf acrolein methylthiopropenal; propenal methylthio prepn conversion methionine

IT Amino acids, preparation
RL: PREP (Preparation)
(manufacture of methionine, from (methylthio)propenal, with min. handling of acrolein)

IT 59-51-8P
RL: PREP (Preparation)
(manufacture of, from (methylthio)propenal, with min. handling of acrolein)

IT 3268-49-3P
RL: PREP (Preparation)
(preparation and conversion to methionine)

IT 107-02-8P, preparation
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with methanethiol, in manufacture of methionine)

IT 74-93-1, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with acrolein)

IT 3268-49-3P
RL: PREP (Preparation)
(preparation and conversion to methionine)

RN 3268-49-3 HCAPLUS

CN Propenal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

IT 107-02-8P, preparation
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with methanethiol, in manufacture of methionine)

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 74-93-1, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with acrolein)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

L34 ANSWER 18 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1982:492707 HCAPLUS

DN 97:92707

ED Entered STN: 12 May 1984

TI Secondary transformations of .beta.-methylmercaptopropionaldehyde in methionine production

AU Balakin, V. S.; Gorbunov, B. N.; Zvegintseva, G. B.; Romanova, L. S.

CS USSR

SO Khimicheskaya Promyshlennost (Moscow, Russian Federation) (1982), (2), 84-5
CODEN: KPRMAW; ISSN: 0023-110X

DT Journal

LA Russian

CC 34-2 (Amino Acids, Peptides, and Proteins)

AB Condensation of MeSH and acrolein gave MeSCH₂CH₂CHO (I), which was converted to methionine by condensation with NH₃ and HCN. By-products in the formation of I were the oligomer HO[CH(CH₂CH₂SMe)O]_x and aldol condensation products of I. The effects of reaction conditions on the rate of formation and extent of formation of these by-products were determined

ST methylmercaptopropionaldehyde methionine intermediate; methylthiopropional
byproduct formation; oligomer acetal methylthiopropional; aldol
condensation methylthiopropional; methional byproduct formation

IT 74-93-1, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction of, with acrolein)

IT 107-02-8, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction of, with methanethiol)

IT 82764-99-6P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, as by-product in reactions of methional)

IT 3268-49-3P
RL: SPN (Synthetic preparation); FORM (Formation,
nonpreparative); PREP (Preparation)
(formation of, as intermediate in preparation of methionine)

IT 59-51-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from methylthiopropional, by-products in)

IT 74-93-1, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction of, with acrolein)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

IT 107-02-8, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction of, with methanethiol)

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 3268-49-3P
RL: SPN (Synthetic preparation); FORM (Formation,
nonpreparative); PREP (Preparation)
(formation of, as intermediate in preparation of methionine)

RN 3268-49-3 HCAPLUS

CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

L34 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1981:191700 HCAPLUS

DN 94:191700

ED Entered STN: 12 May 1984

TI Direct preparation of .beta.-methylthiopropionaldehyde

IN Komorn, Yves; Schwachhofer, Ghislain

PA Rhone-Poulenc Industries S. A., Fr.

SO Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW

DT Patent

LA French

IC C07C149-14

CC 23-14 (Aliphatic Compounds)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 22697	A1	19810121	EP 1980-400951	19800625 <--
	EP 22697	B1	19811230		
	R: BE, CH, DE, FR, GB, IT, NL, SE				
	FR 2460925	A1	19810130	FR 1979-17827	19790710 <--
	FR 2460925	B1	19810814		
	US 4319047	A	19820309	US 1980-164539	19800702 <--
	BR 8004260	A	19810127	BR 1980-4260	19800709 <--
	ES 493224	A1	19810416	ES 1980-493224	19800709 <--
	CA 1138896	A1	19830104	CA 1980-355801	19800709 <--

Search done by Noble Jarrell

SU 1318153	A3	19870615	SU 1980-2948390	19800709 <--
JP 56053648	A2	19810513	JP 1980-93336	19800710 <--
JP 57008098	B4	19820215		
PRAI FR 1979-17827	A	19790710	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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EP 22697	IC	C07C149-14
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AB Acrolein, prepared by air oxidation of propylene, was purified and treated with MeSH to yield MeSCH₂CH₂CHO in an apparatus which is described. The acrylic acid impurity was removed from the acrolein by countercurrent washing in water or solvent; the water was removed by condensation and the condensate was partially vaporized to recover acrolein.

ST methylthiopropionaldehyde; propionaldehyde methylthio; acrylic acid removal acrolein; acrolein addn methanethiol

IT 74-93-1, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction of, with acrolein)

IT 107-02-8P, reactions
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and addition reaction of, with methanethiol)

IT 3268-49-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 74-93-1, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction of, with acrolein)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

IT 107-02-8P, reactions
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and addition reaction of, with methanethiol)

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 3268-49-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 3268-49-3 HCAPLUS

CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

L34 ANSWER 20 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1977:120784 HCAPLUS

DN 86:120784

ED Entered STN: 12 May 1984

TI .beta.-Methylthiopropionaldehyde

IN Biola, Georges; Komorn, Yves; Limongi, Eric

PA Rhone-Poulenc S. A., Fr.

SO Ger. Offen., 12 pp.

CODEN: GWXXBX

DT Patent

LA German

IC C07C149-14

CC 23-14 (Aliphatic Compounds)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	DE 2627430	A1	19761223	DE 1976-2627430	19760618 <--
	DE 2627430	B2	19770721		
	DE 2627430	C3	19850110		

FR 2314917	A1	19770114	FR 1975-20183	19750620 <--
SU 691086	D	19791005	SU 1976-2370202	19760615 <--
US 4225516	A	19800930	US 1976-696432	19760615 <--
JP 52003013	A2	19770111	JP 1976-70901	19760616 <--
JP 57000317	B4	19820106		
ES 448918	A1	19770701	ES 1976-448918	19760616 <--
BE 843077	A1	19761217	BE 1976-168033	19760617 <--
NL 7606580	A	19761222	NL 1976-6580	19760617 <--
NL 184517	B	19890316		
NL 184517	C	19890816		
SE 7607035	A	19761221	SE 1976-7035	19760618 <--
SE 431089	B	19840116		
SE 431089	C	19840426		
BR 7603949	A	19770322	BR 1976-3949	19760618 <--
CH 610882	A	19790515	CH 1976-7831	19760618 <--
CA 1069536	A1	19800108	CA 1976-255246	19760618 <--
PRAI FR 1975-20183		19750620	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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DE 2627430	IC	C07C149-14
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AB The waste gas from acrolein (I) synthesis containing .apprx.5% I was freed from H₂C:CHCO₂H and H₂O and dissolved in MeSCH₂CH₂CHO (II), then treated with MeSH at .apprx.30.degree. to give MeSCH₂CH₂C(SMe)OH, which was maintained at .apprx.0.15% in the solution The combined yield of II was 99%.

ST propionaldehyde methylthio; methylthiopropionaldehyde

IT 3268-49-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 74-93-1, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with acrolein)

IT 107-02-8, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methyl mercaptan)

IT 3268-49-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 3268-49-3 HCAPLUS

CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

IT 74-93-1, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with acrolein)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

IT 107-02-8, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methyl mercaptan)

RN 107-02-8 HCAPLUS

CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

L34 ANSWER 21 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1976:576769 HCAPLUS

DN 85:176769

ED Entered STN: 12 May 1984

TI Development of a continuous method for preparation of 3-(methylthio)propionaldehyde

AU Zvegintseva, G. B.; Medvedev, A. I.; Reimer, M. I.; Dyadchenko, M. A.

CS Nauchno-Issled. Inst. Khim. Polim. Mater., Tambov, USSR

SO Tezisy Dokl. Nauchn. Sess. Khim. Tekhnol. Org. Soedin. Sery Sernistyykh Neftei, 13th (1974), 343. Editor(s): Gal'pern, G. D. Publisher:

"Zinatne", Riga, USSR.
 CODEN: 33SUAA
 DT Conference
 LA Russian
 CC 23-14 (Aliphatic Compounds)
 AB A math. model was used to optimize a continuous process for MeSCH₂CH₂CHO
 (I) synthesis by reacting MeSH with acrolein (II); I was saturated with MeSH,
 and the resulting solution was treated with II in the presence of Et₃N.
 ST methylthio propionaldehyde model optimization; addn methanethiol acrolein
 model optimization
 IT Optimization
 Simulation model
 (of (methylthio)propionaldehyde synthesis by addition reaction of
 methanethiol with acrolein)
 IT Addition reaction
 (of methylmercaptan with acrolein, simulation, optimization, and
 catalysis of)
 IT Addition reaction catalysts
 (triethylamine, for methylmercaptan with acrolein)
 IT 74-93-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction of, with acrolein, (methylthio)propionaldehyde by,
 catalysis, simulation, and optimization of)
 IT 107-02-8, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with methanethiol, catalysis, simulation, and
 optimization of)
 IT 3268-49-3P
 RL: PREP (Preparation)
 (by addition reaction of methanethiol with acrolein, catalysis,
 simulation, and optimization of)
 IT 121-44-8, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst, for addition reaction of methanethiol with acrolein, simulation
 and optimization with)
 IT 74-93-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction of, with acrolein, (methylthio)propionaldehyde by,
 catalysis, simulation, and optimization of)
 RN 74-93-1 HCAPLUS
 CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

IT 107-02-8, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with methanethiol, catalysis, simulation, and
 optimization of)
 RN 107-02-8 HCAPLUS
 CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 3268-49-3P
 RL: PREP (Preparation)
 (by addition reaction of methanethiol with acrolein, catalysis,
 simulation, and optimization of)
 RN 3268-49-3 HCAPLUS
 CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

L34 ANSWER 22 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1976:523278 HCAPLUS
 DN 85:123278
 ED Entered STN: 12 May 1984
 TI Peroxide initiation of the reaction of mercaptans with unsaturated
 compounds
 AU Rykov, B. K.; Sizov, S. Yu.; Sukhanov, S. V.

CS Volzh. Zavod. Org. Sint., Volzhsk, USSR
 SO Tezisy Dokl. Nauchn. Sess. Khim. Tekhnol. Org. Soedin. Sery Sernistykh
 Neftei, 13th (1974), 343. Editor(s): Gal'pern, G. D. Publisher:
 "Zinatne", Riga, USSR.
 CODEN: 33SUAA
 DT Conference
 LA Russian
 CC 23-9 (Aliphatic Compounds)
 AB RSH (R = lower alkyl, e.g., Me) addition to unsatd. compds. (e.g., acrolein)
 to give the corresponding sulfides (e.g., MeSCH₂CH₂CHO) was initiated by
 organic peroxides; .alpha.-haloacyl peroxides were recommended.
 ST addn mercaptan unsatd compd; methanethiol addn acrolein initiator;
 peroxide initiator mercaptan addn acrolein; sulfide methyl formylethyl
 IT Unsaturated compounds
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction of mercaptans with, initiator for)
 IT Thiols, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with unsatd. compds.)
 IT Sulfides, preparation
 RL: PREP (Preparation)
 (by addition reaction of mercaptans with unsatd. compds., initiator for)
 IT Addition reaction catalysts
 (haloacyl peroxides, initiators, for mercaptans with unsatd. compds.)
 IT Peroxides, uses and miscellaneous
 RL: USES (Uses)
 (haloacyl, initiators, for addition reaction of mercaptans with unsatd.
 compds.)
 IT Addition reaction
 (of mercaptans with unsatd. compds.)
 IT 74-93-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with acrolein, initiator for)
 IT 107-02-8, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with methyl mercaptan, initiator for)
 IT 3268-49-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 74-93-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with acrolein, initiator for)
 RN 74-93-1 HCAPLUS
 CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

IT 107-02-8, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with methyl mercaptan, initiator for)
 RN 107-02-8 HCAPLUS
 CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 3268-49-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 3268-49-3 HCAPLUS
 CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

L34 ANSWER 23 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1975:409198 HCAPLUS
 DN 83:9198
 ED Entered STN: 12 May 1984
 TI S-Substituted mercaptopropionaldehyde
 IN Ito, Hiroo; Kimura, Kaoru; Yamada, Akira

PA Toa Gosei Chemical Industry Co., Ltd.
 SO Jpn. Tokkyo Koho, 3 pp.
 CODEN: JAXXAD
 DT Patent
 LA Japanese
 IC C07C; B01J
 CC 23-14 (Aliphatic Compounds)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 49024045	B4	19740620	JP 1970-43681	19700523 <--
PRAI	JP 1970-43681		19700523 <--		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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JP 49024045	IC	C07CIC B01J
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AB Cr(OAc)₃.H₂O and n-dodecylmercaptan were kept 1 hr at 30.degree. with acrolein, containing a polymerization inhibitor (e.g. hydroquinone), to give 82.1% .beta.-n-dodecylthiopropionaldehyde. The reaction of RSH (R = Me, Et, Bu, Ph) with RCH:CR1CHO (R = H, R1 = H, Me; R = Me, R1 = H) and inorg. Cr salts were also discussed.

ST addn mercaptan unsatd aldehyde; mercaptopropionaldehyde substituted; propionaldehyde mercapto substituted; dodecylthiopropionaldehyde

IT Aldehydes, preparation

RL: PREP (Preparation)

(S-substituted mercapto-)

IT Thiols, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(addition reaction with unsatd. aldehydes)

IT Addition reaction catalysts

(chromium salts, for thiols with unsatd. aldehydes)

IT 55154-15-9 55184-91-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(addition reaction catalyst, for mercaptan with acroleins)

IT 123-54-6D, 2,4-Pentanedione, chromium complexes 1066-30-4 7440-47-3D,

Chromium, 2,4-pentanedione complexes 10103-47-6 39345-92-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(addition reaction catalyst, for mercaptans with acroleins)

IT 74-93-1 75-08-1 108-98-5 109-79-5

112-55-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(addition reaction with acrolein)

IT 78-85-3 107-02-8, reactions 4170-30-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(addition reaction with thiols, catalysts for)

IT 3268-49-3P 19378-51-9P 27098-65-3P 38160-52-0P 38160-57-5P

55154-14-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

IT 74-93-1 75-08-1 108-98-5 109-79-5

112-55-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(addition reaction with acrolein)

RN 74-93-1 HCAPLUS

CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

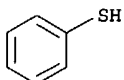
RN 75-08-1 HCAPLUS

CN Ethanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-CH₂-SH

RN 108-98-5 HCAPLUS

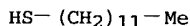
CN Benzenethiol (8CI, 9CI) (CA INDEX NAME)



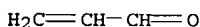
RN 109-79-5 HCAPLUS
CN 1-Butanethiol (8CI, 9CI) (CA INDEX NAME)



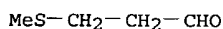
RN 112-55-0 HCAPLUS
CN 1-Dodecanethiol (7CI, 8CI, 9CI) (CA INDEX NAME)



IT 107-02-8, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction with thiols, catalysts for)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)



IT 3268-49-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)



L34 ANSWER 24 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1975:409197 HCAPLUS
DN 83:9197
ED Entered STN: 12 May 1984
TI .beta.-Methylthiopropionaldehyde and its alkyl derivatives
IN Ohuchi, Shunji; Shibuya, Kazumasa
PA Asahi Chemical Industry Co., Ltd.
SO Jpn. Tokkyo Koho, 3 pp.
CODEN: JAXXAD
DT Patent
LA Japanese
IC C07C; B01J
CC 23-14 (Aliphatic Compounds)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 49024046	B4	19740620	JP 1970-78498	19700909 <--
PRAI	JP 1970-78498		19700909	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 49024046	IC	C07CIC B01J

AB MeSH was added to RCH:CR1COR2 (R, R1, R2 = H, alkyl) in EtOH containing .beta.-PhNHC10H7, NH4O2CNH2, NH4HCO3, (NH4)2CO3, NH4Cl-NaHCO3, or NH3-CO2 at 10-20.degree. to give .ltoreq.90% MeSCHRCHR1COR2.

ST addn methylmercaptan acrolein; catalyst addn methylmercaptan acrolein; thiol addn acrolein deriv

IT Addition reaction catalysts
(ammonium bicarbonate-phenyl-naphthylamine, for acrolein and methylmercaptan)

IT Addition reaction
(of methylmercaptan with acrolein, (methylthio)propionaldehydes from)

IT 74-93-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction of, with acrolein, catalyst for)

IT 107-02-8, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction with methylmercaptan, catalysts for)

IT 3268-49-3P

RL: PREP (Preparation)

(by addition reaction of methylmercaptan with acrolein, catalyst for)

IT 506-87-6 1111-78-0
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst, for addition reaction of methylmercaptan with acrolein)

IT 124-38-9, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst, with ammonia, for methylmercaptan addition with acrolein)

IT 135-88-6
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst, with ammonium bicarbonate, for addition reaction of methylmercaptan with acrolein)

IT 144-55-8, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst, with ammonium chloride)

IT 12125-02-9, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (catalyst, with sodium bicarbonate, for methylmercaptan addition with acrolein)

IT 7664-41-7, uses and miscellaneous
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, with carbon dioxide, for methylmercaptan addition with acrolein)

IT 1066-33-7
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, with phenyl-naphthylamine, for methylmercaptan addition with acrolein)

IT 74-93-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction of, with acrolein, catalyst for)

RN 74-93-1 HCAPLUS
 CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

IT 107-02-8, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with methylmercaptan, catalysts for)

RN 107-02-8 HCAPLUS
 CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 3268-49-3P
 RL: PREP (Preparation)
 (by addition reaction of methylmercaptan with acrolein, catalyst for)

RN 3268-49-3 HCAPLUS
 CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

L34 ANSWER 25 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1975:16324 HCAPLUS
 DN 82:16324
 ED Entered STN: 12 May 1984
 TI .beta.-(Methylthio)propionaldehyde
 IN Sizov, S. Yu.; Sukhanov, S. V.; Rykov, V. K.; Shustov, V. I.; Tsarenko, S. V.
 PA Volzhskii Plant of Organic Synthesis
 SO U.S.S.R.
 From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1974, 51(34), 63.
 CODEN: URXXAF
 DT Patent
 LA Russian
 IC C07C
 CC 23-14 (Aliphatic Compounds)
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI SU 443029 T 19740915 SU 1972-1819472 19720810 <--
 PRAI SU 1972-1819472 A 19720810 <--

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

SU 443029 IC C07C
 AB MeSCH₂CH₂CHO (I) was prepared by treating acrolein with MeSH in an organic solvent (e.g., I) in 1:1 I-MeSH ratio.
 ST methylthiopropionaldehyde; thiopropionaldehyde methyl; propionaldehyde methylthio; acrolein addn methylmercaptan
 IT 74-93-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with acrolein)
 IT 107-02-8, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with methanethiol)
 IT 3268-49-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 74-93-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with acrolein)
 RN 74-93-1 HCAPLUS
 CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

H₃C-SH

IT 107-02-8, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction with methanethiol)
 RN 107-02-8 HCAPLUS
 CN 2-Propenal (9CI) (CA INDEX NAME)

H₂C=CH-CH=O

IT 3268-49-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 3268-49-3 HCAPLUS
 CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

MeS-CH₂-CH₂-CHO

L34 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1975:16319 HCAPLUS
 DN 82:16319
 ED Entered STN: 12 May 1984
 TI 3-Methylmercaptopropionaldehyde
 IN Koberstein, Edgar; Mueller, Klaus; Theissen, Ferdinand
 PA Deutsche Gold- und Silber-Scheideanstalt vorm. Roessler
 SO Ger., 3 pp.
 CODEN: GWXXAW
 DT Patent
 LA German
 IC C07C
 CC 23-14 (Aliphatic Compounds)
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2320544	B1	19740912	DE 1973-2320544	19730421 <--
DE 2320544	C2	19750605		
US 4048232	A	19770913	US 1973-399127	19730920 <--
SU 505357	D	19760228	SU 1974-1996514	19740218 <--
DD 110862	C	19750112	DD 1974-176862	19740228 <--
ES 423736	A1	19760416	ES 1974-423736	19740228 <--
GB 1400702	A	19750723	GB 1974-9296	19740301 <--
NL 7404691	A	19741023	NL 1974-4691	19740405 <--
BR 7402784	A0	19741105	BR 1974-2784	19740408 <--
CH 582665	A	19761215	CH 1974-5019	19740410 <--

RO 68025	P	19801230	RO 1974-78468	19740418 <--
BE 813990	A1	19741021	BE 1974-6044553	19740419 <--
FR 2226393	A1	19741115	FR 1974-13752	19740419 <--
JP 50012012	A2	19750207	JP 1974-44369	19740419 <--
AT 7403268	A	19751215	AT 1974-3268	19740419 <--
AT 331773	B	19760825		
IT 1005995	A	19760930	IT 1974-50485	19740419 <--
CA 1005460	A1	19770215	CA 1974-197828	19740419 <--
SE 397344	B	19771031	SE 1974-5321	19740419 <--
PRAI DE 1973-2320544		19730421	<--	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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DE 2320544	IC	C07C
AB	CH ₂ :CHCHO reacted with MeSH in the presence of hexamethylenetetramine catalyst to give 99.0-99.8% MeSCH ₂ CH ₂ CHO.	
ST	acrolein methanethiol addn catalyst; propionaldehyde methylthio	
IT	Addition reaction catalysts	
	(hexamethylenetetramine, for acrolein with methanethiol)	
IT 74-93-1	RL: RCT (Reactant); RACT (Reactant or reagent)	
	(addition reaction of, with acrolein, catalysts for)	
IT 107-02-8, reactions	RL: RCT (Reactant); RACT (Reactant or reagent)	
	(addition reaction of, with methanethiol, catalysts for)	
IT 100-97-0, uses and miscellaneous	RL: CAT (Catalyst use); USES (Uses)	
	(catalysts, for addition reaction of acrolein with methanethiol)	
IT 3268-49-3P	RL: SPN (Synthetic preparation); PREP (Preparation)	
	(preparation of)	
IT 74-93-1	RL: RCT (Reactant); RACT (Reactant or reagent)	
	(addition reaction of, with acrolein, catalysts for)	
RN 74-93-1 HCAPLUS		
CN	Methanethiol (8CI, 9CI) (CA INDEX NAME)	

H₃C-SH

IT 107-02-8, reactions	RL: RCT (Reactant); RACT (Reactant or reagent)
	(addition reaction of, with methanethiol, catalysts for)
RN 107-02-8 HCAPLUS	
CN 2-Propenal (9CI) (CA INDEX NAME)	

H₂C=CH-CH=O

IT 3268-49-3P	RL: SPN (Synthetic preparation); PREP (Preparation)
	(preparation of)
RN 3268-49-3 HCAPLUS	
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)	

MeS-CH₂-CH₂-CHO

L34 ANSWER 27 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1975:16318 HCAPLUS
 DN 82:16318
 ED Entered STN: 12 May 1984
 TI .beta.-Methylthiopropionaldehyde
 IN Kojima, Takeshi; Horisawa, Toshiharu; Shimasaki, Masami; Ito, Ryoichi
 PA Kanegafuchi Chemical Industry Co., Ltd.
 SO Jpn. Tokkyo Koho, 2 pp.
 CODEN: JAXXAD
 DT Patent
 LA Japanese
 IC C07C; B01J
 CC 23-14 (Aliphatic Compounds)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 49024890	B4	19740626	JP 1970-82267	19700919 <--
PRAI	JP 1970-82267		19700919 <--		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP	49024890	IC	C07CIC B01J
AB	Amino acids catalyzed the addition of MeSH (I) to CH ₂ :CHCHO (II). Thus, 56 g II were added to 48 g I containing 0.5 g methionine at <40.degree. over 60 min to give 93.6 g MeSCH ₂ CH ₂ CHO.		
ST	addn methanethiol acrolein catalyst; methionine catalyst addn acrolein methanethiol; amino acid addn catalyst		
IT	Addition reaction catalysts (amino acids, for methanethiol with acrolein)		
IT	Amino acids, uses and miscellaneous RL: CAT (Catalyst use); USES (Uses) (catalysts, for addition reaction of methanethiol with acrolein)		
IT	74-93-1 RL: RCT (Reactant); RACT (Reactant or reagent) (addition reaction with acrolein, catalysts for)		
IT	107-02-8, reactions RL: RCT (Reactant); RACT (Reactant or reagent) (addition reaction with methanethiol, catalysts for)		
IT	63-68-3, uses and miscellaneous RL: CAT (Catalyst use); USES (Uses) (catalysts, for addition reaction of methanethiol with acrolein)		
IT	3268-49-3P RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)		
IT	74-93-1 RL: RCT (Reactant); RACT (Reactant or reagent) (addition reaction with acrolein, catalysts for)		
RN	74-93-1 HCAPLUS		
CN	Methanethiol (8CI, 9CI) (CA INDEX NAME)		

H₃C-SH

IT	107-02-8, reactions RL: RCT (Reactant); RACT (Reactant or reagent) (addition reaction with methanethiol, catalysts for)		
RN	107-02-8 HCAPLUS		
CN	2-Propenal (9CI) (CA INDEX NAME)		

H₂C=CH-CH=O

IT	3268-49-3P RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)		
RN	3268-49-3 HCAPLUS		
CN	Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)		

MeS-CH₂-CH₂-CHO

L34 ANSWER 28 OF 28 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1975:16317 HCAPLUS
 DN 82:16317
 ED Entered STN: 12 May 1984
 TI S-Substituted mercaptopropionaldehyde
 IN Ito, Hiroo; Kimura, Kaoru; Sato, Masakatsu; Yamada, Akira
 PA Toa Gosei Chemical Industry Co., Ltd.
 SO Jpn. Tokkyo Koho, 3 pp.
 CODEN: JAXXAD
 DT Patent
 LA Japanese
 IC C07C; B01J
 CC 23-14 (Aliphatic Compounds)
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 49024454 B4 19740622 JP 1970-43680 19700523 <--
PRAI JP 1970-43680 19700523 <--
CLASS

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PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES
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JP 49024454 IC C07CIC B01J
AB The addition of RSH (R = alkyl) to R1CH:CR2CHO (R1, R2 = H, alkyl) to give
RSCHR1CHR2CHO was promoted by strong acid catalysts, which activated the
double bond by protonating the CO group. Thus, CH2:CHCHO was added
dropwise at 0-6.8.degree. to MeSH and HCl, then held 1 hr at 30.degree. to
give 86.5% MeSCH2CH2CHO.
ST addn thiol acrolein catalyst; aldehyde alkylthio
IT Thiols, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction with .alpha.,.beta.-ethylenic aldehydes, catalytic)
IT Acids, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts from strong, for addition reaction of thiols with
.alpha.,.beta.-ethylenic aldehydes)
IT Addition reaction catalysts
(strong acids, for alkane thiols with .alpha.,.beta.-ethylenic
aldehydes)
IT Aldehydes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(.alpha.,.beta.-ethylenic, addition reaction with thiols, catalytic)
IT 74-93-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction with acrolein)
IT 107-02-8, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction with methanethiol)
IT 7647-01-0, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for addition reaction of methanethiol with acrolein)
IT 3268-49-3P 19378-51-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 74-93-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction with acrolein)
RN 74-93-1 HCAPLUS
CN Methanethiol (8CI, 9CI) (CA INDEX NAME)

```

H₃C-SH

```

IT 107-02-8, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(addition reaction with methanethiol)
RN 107-02-8 HCAPLUS
CN 2-Propenal (9CI) (CA INDEX NAME)

```

H₂C=CH-CH=O

```

IT 3268-49-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 3268-49-3 HCAPLUS
CN Propanal, 3-(methylthio)- (9CI) (CA INDEX NAME)

```

MeS-CH₂-CH₂-CHO

```

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